Year 6
Answers

Term 1

Units 1 – 11

Essential Maths

ANSWERS

Term 1

YEAR 6

UNIT 1

Chance- (Answer may vary)

1.
   a. E   b. C
   c. A   d. A
   e. A   f. A
   g. E   h. A
   i. C   j. B
   k. B   l. B
   m. B   n. B or C or D
   o. B

2. B- $\frac{1}{4}$,   Y- $\frac{1}{6}$

3.
   a. $\frac{1}{8}$ b. $\frac{3}{8}$ c. $\frac{1}{2}$
   d. $\frac{1}{2}$ e. $\frac{1}{4}$ f. $\frac{1}{2}$
   g. $\frac{3}{8}$ h. $\frac{5}{8}$

4.
   a. $\frac{8}{15}$ b. $\frac{7}{15}$ c. $\frac{2}{5}$
   d. $\frac{3}{5}$ e. $\frac{4}{5}$ f. $\frac{8}{15}$

5.
   a. $\frac{1}{4}$ b. $\frac{1}{12}$ c. $\frac{1}{6}$
   d. $\frac{1}{2}$ e. $\frac{5}{6}$ f. $\frac{3}{4}$
   g. $\frac{3}{4}$ h. $\frac{1}{3}$ i. 0
   j. $\frac{3}{4}$

6.
   a. $\frac{3}{10}$ b. $\frac{3}{5}$ c. $\frac{2}{5}$
   d. $\frac{3}{10}$ e. $\frac{3}{10}$ f. $\frac{4}{5}$

7.
   a. $\frac{1}{2}$ b. $\frac{1}{2}$ c. $\frac{3}{8}$
   d. $\frac{1}{2}$ e. $\frac{1}{2}$ f. $\frac{3}{8}$

8.
   a. $\frac{4}{9}$ b. $\frac{5}{9}$ c. $\frac{1}{36}$
   d. $\frac{19}{36}$

9.
   a. $\frac{1}{12}$ b. $\frac{1}{6}$ c. $\frac{1}{4}$
   d. $\frac{1}{4}$ e. $\frac{7}{12}$ f. $\frac{1}{12}$

10.
   a. $\frac{10}{21}$ b. $\frac{16}{21}$ c. $\frac{20}{21}$
   d. $\frac{10}{21}$ e. $\frac{13}{21}$ f. $\frac{11}{21}$
   g. $\frac{11}{21}$ h. $\frac{17}{21}$ i. $\frac{20}{21}$
   j. $\frac{5}{21}$

UNIT 2

Describing Patterns Using Words

1.
a. – (c)

Input	Output
1	1
2	4
3	7
4	**10**
5	**13**
10	**28**
50	**148**
n	**3n-2**

b. – (d)

Input	Output
1	1
2	3
3	5
4	**7**
5	**9**
10	**19**
50	**99**
n	**2n-1**

c. – (a)

Input	Output
1	1
2	4
3	9
4	**16**
5	**25**
10	**100**
50	**2500**
n	n^2

d. – (b)

Input	Output
1	2
2	6
3	12
4	**20**
5	**30**
10	**110**
50	**2550**
n	**n(n+1)**

2.

a. 48, 54, 60   b. 43,36, 29
c. 128, 64, 32   d. 6, 12, 24
e. 15, 75, 375   f. 125, 25, 5
g. 11, 38, 119   h. 12, 28, 60
i. 6, 33, 1086   j. 2, 9, 730

3. a. Add 5
    b. Add 1.2
    c. Multiply by 2
    d. n^2
    e. Divide by 2
    f. The odd numbers of the alphabet

4.
    a. 27, 30, 33   b. 49, 56, 63
    c. 24, 48, 96   d. 88, 84, 80
    e. 81, 243, 729   f. 32, 64, 128
    g. 1250, 6250, 31250   h. 13, 21, 34
    i. 36, 49, 64   j. 125, 216, 343

5.
    a.   x = number of matches
       n = number of squares

$$n = \frac{x}{4} \ or \ 4n = x$$

    b.

Number of Squares	1	2	3	4	5
Number of Matchsticks	4	8	12	16	20

6	7	8	9	10
24	28	32	36	40

6.
    a. 3 matches
    b. n= number of squares
       x= number of matches
   $x = 4 + (n-1)3$

   $x = 4 + 3n - 3$

   $x = 3n + 1 \ or \ n = \dfrac{x-1}{3}$

    c.

Number of Squares	1	2	3	4	5
Number of Matchsticks	4	7	10	13	16

6	7	8	9	10
19	22	25	28	31

7.
    a. The bottom is "5 times the top number".
    b. The bottom number is "7 more than the top number".
    c. The bottom number is "2times the top number minus 1".

Describing patterns using algebra

1.

a. $n \times n = n^2$ b. $2n - 5$

c. $2n + 4$ d. $7 \times \dfrac{n}{2} = \dfrac{7n}{2}$

e. $\dfrac{n}{6}$ f. $|n - 8|$

g. $2n + 10$ h. $6n + 2$

i. $\dfrac{n}{3} - 4$ j. $4n + 36$

2.

a.

Input	Output
1	1
2	0
3	3
4	0
5	5
6	**0**
7	**7**
8	**0**
50	**0**
101	**101**
even n	**0**
odd n	**n**

b.

Input	Output
1	2
2	3
3	6
4	5
5	10
6	7
7	14
8	**9**
50	**51**
101	**202**
even n	**n+1**
odd n	**2n**

3.

Pens	Partitions
1	4
2	7
3	10
4	**13**
5	**16**
n	**3n+1**
25	**76**
50	**151**

4.

Pairs of Pens	Partitions
1	7
2	12
3	17
4	**22**
5	**27**
m	**5m+2**
10	**52**
30	**152**

5.

Tables	Seats
1	4
2	6
3	8
4	**10**
5	**12**
n	**2n+2**
20	**42**
30	**62**

UNIT 3

1.

a. line segment   b. plane
c. ray   d. line segment
e. angle   f. point
g. plane   h. plane

2.

a. 2   b. line
c. point   d. vertex
e. rays   f. Parallel lines
g. right   h. Intersecting lines

3.
  a. BCEF
  b. BC, CE, EF, FB
  c. AC, BD
  d. A, B, C, D, E, F
  e. $\angle ABF$, $\angle ECD$, $\angle BFE$, $\angle FEC$, $\angle ECB$
     $\angle FBC$
  f. AB, BC, CD, EF, EC, FB
  g. $FB \parallel EC$, $FE \parallel BC$
  h. $FB \perp BC$, $BD \perp EC$

4.
  a. 40°   b. 140°   c. 140°
  d. 60°

5.
  a. acute   b. obtuse,
  c. acute,   d. acute,
  e. obtuse   f. acute

6.
  a. acute, 80°   b. obtuse, 146°
  c. obtuse, 104°   d. right, 90°

7.
  a. line segment XY
  b. point A
  c. plane WXYZ
  d. ray EF
  e. line PQ
  f. angle ABC

8. A, D
9. A, B
10.
  a. no   b. no
  c. no   d. yes

11.
  a. yes   b. yes
  c. yes   d. no

12. B, C, D

UNIT 4

1. a. No   b. Yes   c. No
   d. Yes   e. No   f. No

2.
  a. Triangle,3,3
  b. Octogon,8,8
  c. Pentagon,5,5
  d. Quadrilateral,4,4
  e. Hexagon,6,6
  f. Decagon,10,10

Regular Polygons

1.
  a. No.   b. Yes
  c. No   d. No

Classification of Quadrilaterals

1.
  a. Right-angled triangle
  b. Equilateral Triangle
  c. Isosceles Triangle
  d. Right-angled triangle
  e. Parallelogram
  f. Trapezium
  g. Square
  h. Obtuse-angled Triangle

2.
  a. Trapezium, Trapezium
  b. Triangle, Trapezium
  c. Triangle, Triangle
  d. Trapezium, Rectangle, Trapezium
  e. Trapezium, Triangle
  f. Parallelogram, Parallelogram

3.
  a. True   b. True
  c. False   d. True
  e. True   f. False
  g. True   h. False
  i. False   j. False

UNIT 5

1.	no. of flat surfaces	number of vertices	no. of edges	name of solid figure
a	1	0	0	sphere
b	2	1	1	cone
c	3	0	2	cylinder
d	5	5	8	square pyramid
e	6	8	12	rectangular prism
f	6	8	12	rectangular prism

2.
  i. sphere
  ii. rectangular pyramid
  iii. cylinder
  iv. cone
  v. square pyramid
  vi. triangular pyramid

3.
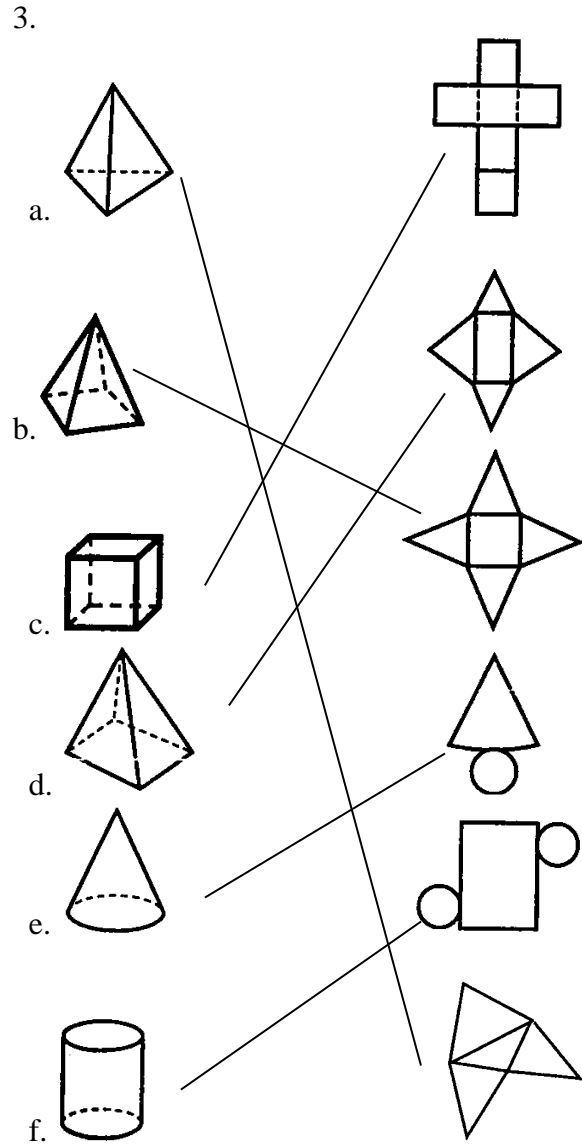
4. a. Name of solid: Hexagonal Pyramid
      Vertices: 7
      Edges: 12
      Faces: 7

   b. Name of solid: Pentagonal Prism
      Vertices: 10
      Edges: 15
      Faces: 7

   c. Name of solid: Pentagonal Pyramid
      Vertices: 6
      Edges: 10
      Faces:

   d. Name of solid: Square Pyramid
      Vertices: 5
      Edges: 8
      Faces: 5.

e.   Name of solid: Rectangular Prism
Vertices: 8
Edges: 12
Faces: 6

f.   Name of solid: Triangular Pyramid
Vertices: 4
Edges: 6
Faces: 4

g.   Name of solid: Triangular Prism
Vertices: 6
Edges: 9
Faces: 5

h.   Name of solid: Hexagonal Prism
Vertices: 12
Edges: 18
Faces: 8

5.   a.   1
    b.   2
    c.   4
    d.   3

6.   a.   Triangular Prism
    b.   Cube
    c.   Cylinder
    d.   Cube
    e.   Pentagonal Pyramid
    f.   Cone

UNIT 6

Directions on a map

1.   a.   South-east
    b.   South-east
    c.   South-west
    d.   Library
    e.   150 minutes
    f.   South-wes

2.   a.   South-west
    b.   West
    c.   North-east
    d.   West
    e.   135°
    f.   90°
    g.   135°
    h.   135°

3.   a.   South-east
    b.   East
    c.   North
    d.   South-east
    e.   South-west
    f.   East
    g.   North-east
    h.   South-west

Scale Drawing

1.   a.   2.5m, 1.7m
    b.   4.25 m^2
    c. 16.215 m^2
    d.   25.4 m

2.   i.   a. 5.3   b. 2.9
         c. 5.3   d. 2.

    ii.   a. 450   b. 4.5
         c. 250   d. 2.

3.   a.   2 cm   b. 3 cm
    c. 600   d. 1000

4.   a. $\frac{1}{2} mm$ b. 60
    c. 300   d. 3

UNIT 7

Finding the Average of Consecutive Numbers

1.
    a)   19
    b)   33
    c)   39
    d)   34
    e)   45
    f)   50
    g)   230
    h)   259
    i)   375
    j)   60
2.   50.5
3.   250.5
4.   200
5.   285
6.   50
7.   500,500
8.   51
9.   16
10. 89.5

Finding Addends from the Sum of Consecutive Numbers

1. 121, 122, 123, 124, 125
2. 92, 94, 96, 98, 100, 102, 104, 106, 108
3. 37, 39, 41, 43, 45, 47, 49
4. 11, 12, 13, 14, 15, 16, 17
5. 8, 9, 10, 11, 12, 13, 14, 15, 16
6. 9, 11, 13, 15, 17, 19, 21
7. 30, 32, 34, 36, 38
8. 45, 46, 47, 48, 49

Number of Pages from a Range of Pages

1.

a) 139	b) 50	c) 65
d) 76	e) 52	f) 39
g) 173	h) 89	i) 212
j) 199		

2. 49 pages
3. 79 houses
4. 69 pages
5. 1590 tickets
6. 609 receipts
7. 25 contestants
8. 69 participants
9. 109 pages
10. 10777

Facing Pages Given the Sum of Page Numbers

1.
   a) 16, 17
   b) 32, 33
   c) 48, 49
   d) 66, 67
   e) 88, 89
   f) 110, 111
   g) 128, 129
   h) 184, 185
   i) 248, 249
   j) 308, 309
2. 46, 47
3. 60
4. 88
5. 235

Exchange Gifts

1. 1980
2. 182
3. 506

Handshakes

1. 780
2. 300
3. 91
4. 78
5. 153
6. 26
7. 12
8. 300

UNIT 8

Apple and Orange Technique

1.

a) 64	b) 41	c) 66
d) 44	e) 11	f) 6
g) 10	h) 9	

2. $20
3. $65
4. Chicken: $6, duck: $8
5. Marker:$44, pen: $11
6. $144

Apple, Orange and Banana Technique

1. $39
2. $34
3. $82

Stream Problem 1

1. 16.5 km/h, 1.5 km/h
2. 612 km/h, 28 km/h
3. 21.5 km/h, 2.5 km/h
4. 1061 km/h, 19 km/h
5. 22.5 km/h, 4.5 km/h

Stream Problem 2

1. 2 hours and 24 minutes
2. 28 minutes and 48 seconds
3. 38 minutes and 46.5 seconds
4. 19 minutes and 33 seconds
5. 39 minutes and 22.5 seconds

Average Speed

1. $68\frac{4}{7}$ km/h
2. 57.6 km/h
3. $34\frac{2}{7}$ km/h

4. $67\frac{11}{27}$ km/h

UNIT 9

Proportion Problem 1

1. 9
2. 22
3. 16
4. 19
5. 10
6. 16
7. 29
8. 5

Proportion Problem 2

1. 3
2. 2
3. 4
4. 8
5. 10
6. 12
7. 2
8. 8

Working Problem

1. $4\frac{4}{5}$
2. 4 days
3. $5\frac{1}{11}$ hours
4. 26 minutes 40 seconds
5. $1\frac{7}{8}$
6. 4 hours
7. $3\frac{1}{13}$
8. 36 hours

Motion Problem

1. a) 15 minutes
    b) 2 hours 15 minutes
2. 1 hour
3. car: 490 km; bus: 410 km
4. 24 minutes
5. 615 km/h, 715 km/h

UNIT 10

Guess and Check

1. 14
2. 312132 or 231213
3. 2835
4. 82, 28
5. As it is a square, the other side will also be odd, and odd + odd = even, therefore the perimeter will be an even number
6. 6
7. 12 spiders and 18 beetles
8. $6 \times \$10$ notes

Simplifying the problems

1. 400
2. 105
3. 24
4. 62
5. 2 large boxes and 15 small boxes
6. 90
7. D
8. 108

Working Backwards

1. 6:20pm
2. 87
3. $80
4. $40
5. $150

Logical Reasoning

1. 8492
2. 8 girls including Diana
3. 1285
4. a) 16, (white 8+black 6+ grey 2)
    b) 12, (G4+B6+W2)
    c) 14, (W8+G4+ B2)
5. Leonardo: grocer, Romeo: electrician, Joshua: plumber
6. Friday
7. Charlene & Greg, Sheila & Ben, Leah & Jim, Amy & Ferdinand
8. A: 4, B: 9, C: 7

Enrich Maths

ANSWERS

Term 1

YEAR 6

UNIT 1

Multiple Choice

1. C   2. B
3. D   4. D
5. C   6. D
7. A   8. B
9. B   10. D
11. B   12. A
13. C   14. B
15. D   16. B
17. B   18. A
19. C   20. B

Extension

1.
   a. $\frac{1}{2}$ b. $\frac{2}{3}$ c. $\frac{1}{3}$ d. $\frac{1}{3}$

2. $\frac{9}{10}$

3. $\frac{5}{6}$

4. outcomes: B1, B2, R1, R2, G1, G2
   a. $\frac{1}{6}$ b. $\frac{1}{6}$ c. $\frac{1}{3}$ d. $\frac{1}{2}$

5.
   a. $\frac{1}{6}$ b. $\frac{1}{18}$ c. $\frac{1}{6}$
   d. $\frac{35}{36}$ e. $\frac{1}{6}$ f. $\frac{1}{4}$

6.
   a. $\frac{1}{8}$ b. $\frac{3}{8}$ c. $\frac{7}{8}$

   d. $\frac{7}{8}$ e. $\frac{1}{2}$ f. $\frac{1}{2}$

7.
   a. $\frac{3}{25}$ b. $\frac{7}{50}$ c. $\frac{31}{100}$
   d. $\frac{17}{20}$ e. $\frac{11}{50}$ f. $\frac{1}{2}$

8. $\frac{5}{13}$

9.
a.
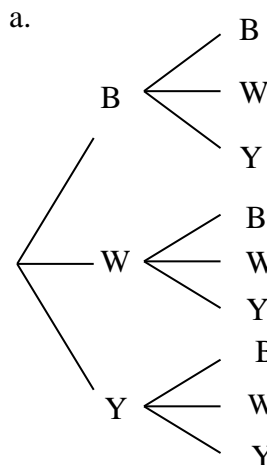
   b. $\frac{2}{9}$ c. $\frac{1}{9}$ d. $\frac{1}{3}$

UNIT 2

Multiple Choice Exercises

1. C   2. B
3. C   4. B
5. C   6. D
7. B   8. A
9. A   10. A
11. C   12. A
13. B   14. B
15. D   16. B
17. B   18. C
19. C   20. A

Extension

1.

Tables	Seats
1	5
2	**8**
3	11
4	**14**
5	**17**
n	**3n+2**
10	**32**
25	**77**

2.

Figure	Number of Sticks	Number of Sticks
1	4	$(2\times2)=2\times1\times(1+1)$
2	12	$(2\times2\times3)=2\times2\times(2+1)$
3	**24**	$(2\times3\times4)=2\times3\times(3+1)$
4	**40**	$(2\times4\times5)=2\times4\times(4+1)$
n	$2n(n+1)$	$2n(n+1)$
15	**480**	**480**

3.

$x = 6 + (n - 1)5$

$x = 5n + 1$

$\diagdown$ *figure*$25 = 126$*sticks*

4.　121

5.　a. n^3　　　　b. $\dfrac{1}{n^2}$　　　c. $\dfrac{n}{n+4}$　　d. $\dfrac{n}{3n}$

6.　a. 10　　　b. 17　　　c. 34　　　d. 87

7. 336, 504

UNIT 3

Multiple Choice Exercises

1. C　　　　2. A　　　　3. B
4. B　　　　5. A　　　　6. B
7. C　　　　8. A　　　　9. A
10. B　　　11. A　　　12. B
13. B　　　14. C　　　15. B
16. A　　　17. B　　　18. C
19. D　　　20. C

Extension

1.

Method 1	Method 2
$\angle PQR$	$\angle q$
$\angle XYZ$	$\angle y$
$\angle ABC$	$\angle b$
$\angle STU$	$\angle t$
$\angle DEF$	$\angle e$
$\angle GHI$	$\angle h$

2. Teachers Check
3. Teachers Check
4. Teachers Check
5. a. Obtuse　b. Right　　c. Reflex　d. Acute
6. a. 1　　　　　　　　b. 2
7. a. 8　　　　　　　　b. 7

UNIT 4

Multiple Choice Exercises

1. A　　　　2. C　　　　3. A
4. C　　　　5. B　　　　6. B
7. B　　　　8. B　　　　9. D
10. B　　　11. A　　　12. C
13. C　　　14. D　　　15. B
16. D
17. B

Total age = 3×8.75= 26.25
One child is 1.5 years older than the two.
Let A be the age of one of the two children.
2A+(A+1.5)=26.25, 3A= 24.75, A=8.25
Total age of the two younger children=2×8.25= 16.5

18. C
19. C
20. D

Extension

1.
　a. Heptagon　　　　b. Octagon
　c. Triangle　　　　d. Pentagon
　e. Pentagon　　　　f. Hexagon
　g. Heptagon　　　　h. Octagon

2.
　Equilateral - ΔABC
　Scalene - ΔADE , ΔBEF , ΔCDF , ΔDEF

3.

	Polygon	Number of sides	Number of vertices	Number of Diagonals
a	**Triangle**	3	3	**0**
b	Quadrilateral	**4**	**4**	2
c	**Pentagon**	**5**	5	**5**
d	Hexagon	**6**	**6**	**9**
e	**Heptagon**	7	**7**	**14**
f	Octagon	**8**	8	**20**
g	**Nonagon**	9	**9**	**27**
h	Decagon	**10**	**10**	**35**

4: figure A
   a. AD, AB   b. AD, BC   c. AC, BD

   figure B
   a. 4   b. 1   c. 0   d. 2

5.
① rectangle   ② rectangle
③ rectangle   ④ triangle
⑤ rectangle   ⑥ triangle
⑦ rectangle   ⑧ trapezium
⑨ triangle   ⑩ rectangle

UNIT 5

Multiple Choice Exercises

1. A	2. C	3. D
4. A	5. B	6. B
7. B	8. B	9. D
10. D	11. C	12. C
13. C	14. D	15. C
16. B	17. A	18. C
19. D	20. C	

Extension

1. a. b   b. b   c. a   d. c

2. a. Tetrahedron
   b. Cube
   c. Sphere
   d. Cylinder
   e. Hexagonal pyramid
   f. Triangular Prism
   g. Rectangular Prism

3. a, c, e

4. a. Cone, Cylinder
   b. Rectangular Prism, Triangular Prism
   c. Cylinder, Cylinder
   d. Square Pyramid, Square Pyramid
   e. Triangular Prism, Rectangular Prism
   f. Hemisphere, Cylinder

5. a. parrel bases are not congruent.
   b. a cone is not a prism. It has no polygonal faces.
   c. a sphere is not a prism. It has no polygonal faces.
   d. It has no polygonal faces.

UNIT 6

Multiple Choice Exercises

1. D	2. B	3. D
4. A	5. B	6. A
7. B	8. B	9. A
10. C	11. B	12. C
13. C	14. A	15. C
16. A	17. B	18. A
19. C	20. D	

Extension

1. a. West
   b. Soccer Field
   c. Hall, School canteen
   d. North-west
   e. South-west
   f. East
   g. South-west
   h. North-east
   i. Office

2. a. Church
   b. North
   c. Market
   d. Market
   e. South-west
   f. North-east
   g. North-west
   h. South-east
   i. West
   j. South-west

3. 1— a   2— c
    3— d   4— b
    5— e

4. a. 0.4
    b. 3
    c. 125000
    d. 787500

5.

UNIT 7

Extension

1. 6, 66

    $\text{Average} = \left(\dfrac{1+11}{2}\right) = 6$, or

    $$\left(\dfrac{1+2+3+4+5+6+7+8+9+10+11}{11}\right)$$

    $\text{Total} = \left(\dfrac{1+11}{2} \times 11\right) = 66,$ Or

    $(1+2+3+4+5+6+7+8+9+10+11) = 66$

2. $\text{Ave} = 7 = \left(\dfrac{1+13}{2}\right),$

    $\text{Total} = 91 = \left(\dfrac{1+13}{2} \times 13\right)$
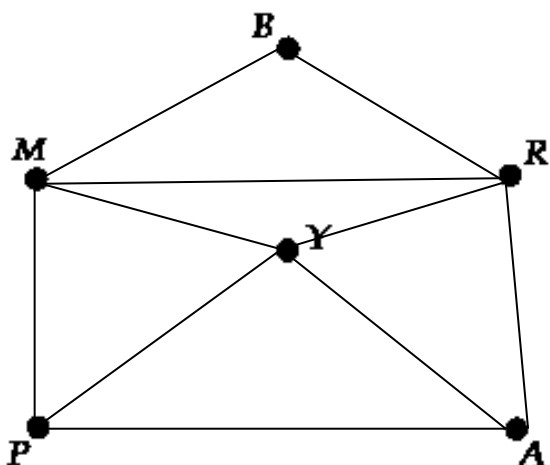
3. \$2000,   (200+300+400+500+600)

4. $13 \text{ cm} = \left(\dfrac{2+24}{2}\right)$

5. 80, 100, 120, 140, 160

6. 6, 8, 10, 12, 14, 16, 18

7. 19

8. 639200, (800×799)

9. 24 $\left(\dfrac{n \times (n-1)}{2} = 276\right)$

10. 23 games must be played. (12+6+3+2)

11. \$156, $\left(\dfrac{2+24}{2} \times 12\right)$

12. 177 mm, average increased 1mm per month

13. \$8190, (2+4+8+16+32…+2048+4096)

14. 72, (8+1+3+5+7+9+11+13+15)

15. Bernie should take daily allowance
    (everyday scheme: \$1.27>\$1.25)

16. 53, $\left(\dfrac{1+7}{2} + 49\right)$

17. 20

18. 10

19. 1332

20. 195 cm

UNIT 8

Extension

1. 35 and 23
2. 5 hours
3. 90 minutes
4. $30
5. 45g
6. $70
7. $24
8. 10 cars

    $12C + 3D = 1200$….a

    $2C + 6D = 750$….b

    $2 \times a - b$

    $24C+6D-2C-6D = 2400 - 750$

    $22C = 1650, C = 75, \quad D = 100$

    $\therefore 750 \div 75 = 10$ toy cars

9. $35

10. 1hour 10 minutes = $1\dfrac{1}{7} hours$

11. 14

12. 6 oranges and 7 pears

    $O + P = 13, (13-P) + 2P = 20$

    $\therefore P = 7 , O = 6$

13. There were 6 ✖ $10 notes and 3 ✖ $5 notes

14. 8 ✖ $20 notes and 12 ✖ $5 notes

15. 6 ✖ 20cents coins (Let there are x 20cents coins and y 50cents coins, x + y = 9, 20x + 50y = 270cents)

16. 24 (There were x red apple and x green apple, $x = (x - 8) \times 3$, so $2x = 24$)

17. $72 (Let C received x, B: 3x, C: 6x, x+3x+6x=120, x=12, so A=6x=72)

18. $95 (Let money I have: x, my sister: $130-x, x+10=3(130-x))

19. $90

20. 8 chickens and 12 ducks (Let the number of chicken x, number of duck 20-x, 2x+0.5(20-x)=22)

UNIT 9

Extension

1. 40, $\left(\dfrac{64}{72} = \dfrac{16}{n}, \, n = 18, \, 72 - 18 - 14 = 40 \right)$

2. 8, $\left(\dfrac{24}{36} = \dfrac{n}{12}, \, n = 8, \; 24 - 8 - 8 = 8 \right)$

3. $\dfrac{2}{3}$, $\left(\dfrac{36}{20} = \dfrac{n}{5}, \, n = 9, \, \dfrac{9+15}{36} = \dfrac{2}{3} \right)$

4. 3 men ($18n = 54$)

5. 3 square metres ($12n = 36$)

6. 60

7. 6 minutes ($30n = 9 \times 5 \times 4$)

8. 15 days, $\left(\dfrac{1}{9} + n = \dfrac{1}{6}, \, n = \dfrac{1}{15} \right)$

9. 90 hours, $\left(\dfrac{1}{9} - \dfrac{1}{n} = \dfrac{1}{10} \right)$

10. 70 km/h $\left(2n + 2 \times 60 = 260 \right)$

11. 12 km/h $\left(4n + 5.5 \times 4 = 74 \right)$

12. 30 m/sec $\left(\dfrac{450 + 150}{20} \right)$

13. 3601 poles $\left(\dfrac{4 \times 45 \times 1000}{50} + 1 \right)$

14. 1.5 km/h (13/5 = 2.6, 28/5 = 5.6, (2.6 + 5.6)/ 2= 4.1, 5.6-4.1 = 1.5)

15. 12 days

16. X: $3000, Y: $2400, Z: $2000

    (ratio: $\dfrac{1}{8} : \dfrac{1}{10} : \dfrac{1}{12}$)

17. 80 seconds ((20-15) n =400)

18. 40km/h ((n+25)/1.25 = 60, n=50, 50/1.25 = 40)

19. 2.5 km

    (Let n = time needed to be on time,

$$4 \times \left(n + \frac{1}{12}\right) = 5 \times \left(n - \frac{1}{24}\right),\ n = \frac{13}{24}$$

$$4 \times \left(\frac{13}{24} + \frac{1}{12}\right) = 2.5\text{km})$$

20. 2.5 hours

   (Let usual time be n minutes,

   usual rate $\times$ n $= \dfrac{6}{7} \times$ usual rate $\times$ (n+25)

   n = 150 = 2.5 hours)

UNIT 10

Extension

1. 193 (43+61+89)

2. Alfred: 7, Bert: 9, Charles: 11, Daniel: 13

3. 10 (3 guppies, 3 goldfish, 3 angelfish + any 1 of guppy or goldfish make absolutely sure of getting the four same breed)

4. Mary: 40 kg, Kennedy: 43, Tom: 46, Jane: 44

5. $50 ($\dfrac{2}{5}$ of her remaining money was $8, so her remaining money was $20, which was $\dfrac{2}{5}$ of the money she started with, therefore she had $50 at the beginning)

6. 317 (common multiples of 3,5,7 = 105, 210, 315, 420, the smallest number over 250 is 315, 315+2=317)

7. 9 (20-1-2-3-5 = 9)

8. Danny

9. $300 ((30+30) $\times$ 2 = 120, (120+30) $\times$ 2 = 300)

10. 22 (Let there be x red marbles, y marbles in total, x-1: y-1=1:7, y=7x-6, x:7x-6-2 = 1: 5, x=4, y=22)

11. 8 buses of 91 students ($728 \div 2 \div 2 \div 2 = 91$)

12. 48% (80% are coins and 60% of the coins are gold, so 80% $\times$ 60%=48%)

13. 108 (Let Karen share n buttons, Kathleen 5n buttons, n-36=5n+36, n=18, n+5n=108

14. A: 232, B: 172, C: 516
    (60 + B + B + 3B = 920, B=172)

15. Mr. Benoit

16. 108:125 $\left(\dfrac{1}{10 \times 100 \times 100} : \dfrac{1}{24 \times 60 \times 60} \right)$

17. 85 beads

18. 9360 ($26 \times 26 \times 10 + 26 \times 10 \times 10$)

19. 173 boxes (163 boxes of 12 and 10 boxes of 5

20. a) 75m/min (900/12)

    b) 300 revolutions/min
       (90000/25=3600, 3600/12=300)

Creative Problem Solving

ANSWERS

Term 1

YEAR 6

UNIT 1

1. 75 km/1.2hrs = **62.5 km/hr**

2. 3/4- 5/8 = 1/8, 1/8 water = 125 mL = 125 g, ¾ water = 750 mL, jug weighs **250 g**

3. 5bars = 4cuts anywhere, 4×14 = **56minutes**

4. 80 and 60

5. 4% walked = 37sudents, 37×25 = **925students**

6. take out 3

7. 250%

8. $100\% \times 110\% = 110\%$, $110\% \times 90\%$ = **99%**

9. Cherise is 11years younger than Charlene, so will be **9 years** old

10. $(x) + (x+1) = 729$, $2x = 728$, $x = 364$, so pages are **364 and 365**

11. $120cm^3 + 36cm^3$ = **156 cm³**

12. shirts at $26.67 each, 580/26.67 = **21 shirts**

13. Stevenson is 18 now, in 6 years the sum will be $18 + 6 + 45 + 6$ = **75**

14. 5% is $32, 15% is **$96**

15. 6 pencils for each ratio part, $7 + 13 = 20$ parts altogether, **120 pens** and pencils altogether

16. 6.75 – 1 1/5 = 5.55, 5.55\3 = 1.85, 1.85 + 1 1/5 = **3.05**

17. area of paper is $90cm^2$, area of photo is $72\ cm^2$, 18/90 = **1/5**

18. 3 ratio parts is 6 animals, 1 ratio part is 2 animals, **8 dogs + 6 cats + 14 birds**

UNIT 2

1. $71.95

2. 4, 14, 24, 34, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49,54 = **16 times**

3. 54 x 35 = 1890cents = $18.90, profit is **$3.90**

4. 250/30 = 8 1/3 hours, leave at **4:20 pm**

5. 1st person shakes hands with 21 people, next person with 20 since already shook with 1st person, then 19, 18, 17… add up numbers from 1 to 21 = **231**

6. original was 108, answer should be **984**

7. 2.16m after 1st bounce, 1.44 after 2nd, 0.96 after 3rd, **0.64 m** after 4th bounce

8. 1-9 is 9digits, 10-99 is 180digits, 100-248 is 447digits, altogether **636 digits**

9. The lowest common multiple of 4, 6, and 7 is 84. 84 **days or 12weeks**

10. daughter born in 1667, mother was **30** in 1667

11. 98764 – 103 = **98661**

12. 200%

13. total is 378, total for first 8 is 136 and total for last 12 is 228, 9th score is **14**

14. 6

15. 48 m³ of water will be displaced, 3 m width x 4 m length x 4 m height, water rises **4 m**

16. $150

17. LCM of 3, 5 and 7 is 105 minutes, bells next ring together at **2:45 pm**

18. In one hour, Tap A fills 3 buckets and Tap B fills 2 buckets = 5 buckets/hr, one bucket would take **12 minutes**

UNIT 3

1. short side is half of long side, long side = 9cm, original area is **81 cm²**

2. 994th student in 7th line, 998th student in **4th** line

3. 270 000

4. 15 children eat 7cakes in 14days, 15 children eat **3 cakes** in 6 days

5. 197 + 641 = 838 students, 838 − 773 = 65 students who like both, **132** like reading only and **576** like television only

6. 28 + 14 + 147 + 3 + 21 + 7 = **220**

7. Coby reads 48 pages in 144 minutes = 1 page in 3 minutes, Kobe reads 12 pages in 40 minutes = 1page in 3 1/3 minutes, Coby reads faster **by 2 pages per hour**

8. 3 hours 55 minutes = 235 minutes, 235\57 = 4.12, so needs **5 cups** of coffee

9. 6 game total is 135, 7 game total would have to be 168, so needs to score **33** in the next game

10. **27,** Three numbers are 8, 9, 10.

11. 400%

12. 45 x 3.5 = 157.5hours = 6days and 13.5hours, last elixir period would finish at 12:17pm of the **Friday of the week after**, but this elixir was taken 3.5 hours prior, so elixir finishes **at 8:47 am**

13. 13/18

14. 6people work for 9 days to complete 2 fifths, 9people work for 6days to complete 2 fifths, 9people work for 9days to complete 3 fifths, so **9 more** days

15. 195

16. fenced on 3 sides of the land, each side is 7 m, so area is **49 m²**

17. take out 4pens, so **4th pen** must be a repeat

18. answer he obtained is 1100, answer he wished to obtain was 1.1, difference is 1098.9

UNIT 4

1. 1 ¼ + 0.25 = 1.5, 1.5 is ¾ of 2

2. Trix is 41 times as old as Xirec, so difference between the two is 40times Xirec's age = 120years, Xirec's age is 3, Trix's age is **123**

3. 3 weeks = 21 days, nice rainy weather on **13 days**

4. **24 ants** and **14 spiders**

5. 2 $1 coins, 5 50cent coins and 3 10cent coins

6. LCM of 96 and 108 is **864** seconds

7. **21,** 525/21 = 25 = 5²

8. **210,** 240 = 1.5 x 160

9. **12,** 12/17 = 0.71

10. 7.5 cm / 5 mm = 15, 15×8 m = **120 m**

11. each side is 8cm, 6 faces, 8×8×6 = **384cm²**

12. 11

13. flies 800 km/hr, 800x3.2 = **2560 km**

14. when travelling upstream, overall speed of boat is 16 km/hr, 40/16 = **2.5 hours**

15. 14 wedges were made, he has eaten 0% of the wedges made

16. to pass a pole must travel 80 m, 80/600 = 2/15 minutes = **8 seconds**

17. counts 79×60×24×5 = $568800 per week, 1000000/568800 = 1.76 weeks, **needs 2 weeks**

18. 3rd of May to 31st May is 29days, 30days in June, 31days in July, 31days in August, 30 in September, 31 in October, 30 in November, 15 for December, altogether = **227 days**

UNIT 5

1. 255

2. **must take out 14**, first 13 may be all blue and green but 14th must be red

3. 25%

4. 0.064027

5. 5, $5 \times 45 = 225 = 15^2$

6. $3632 - 419 = 3213$, $3213/357 = 9$

7. seven men take **6days**

8. 8 \$10notes and 7 \$5notes

9. 50

10. 23rd April, 30th April, 7th May, 14th May, 21st May, 28th May, 4th June, 11th June, 18th June, 25th June, 2nd July, 9th July, 16th July, 23rd July, 30th July, 6th August, 13th August, 20th August, 27th August, 3rd September are all Wednesday, **6th is a Saturday**

11. must take out 21 balls, because first 20 may be black and yellow and green

12. each pineapple costs \$1.90, each apple costs \$1.50

13. number should be a multiple of 10, 11x14 + 16 = 170

14. 37 bicycles, 7 tricycles

15. minute hand travels 360° in one hour, travels 6° in one minute, so travelling 636° is 106minutes, so time is **1:46pm**

16. 12 bottles of Pep Cola is \$19.80, 12 bottles of Koka Cola is \$18.45, \$1.35/12 = 0.1125, Koka Cola is the better deal by **11.25cents per bottle**

17. **take out 8 novels**, so 8th novel is definitely not a horror novel if first 7 were

18. 4035

    a. The sum from 1 to 98 =4851

    b. The sum of multiple of 6=

6+12+18+24+30+36+42+48+54+60+6 6+72+78+84+90+96=816

19. 4851-816=4035

UNIT 6

1. *There are several correct answers for this question, below is a suggested answer.*

    $(1+2) \div 3 + 4 \times 5 = 21$

2. (3, 7)
(7, 11)
(13, 17)
(19, 23)

3.

2	9	4
7	5	3
6	1	8

4. \$146.25

5. *There are several correct answers for this question, below is a **suggested answer.***
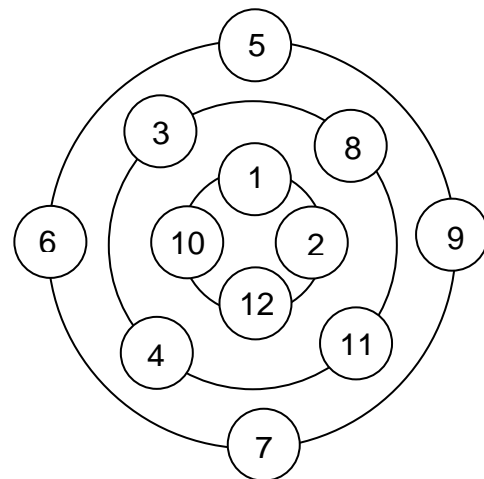
Another Suggested answer

Inner circle: 3,6,7,9
Middle circle: 1,5,8,12
Outer circle: 2,4,10,11

In all answers the inner ring must add to 25, the middle ring to 26 and the outer ring to 27, and each number must only be used once.

UNIT 7

1.
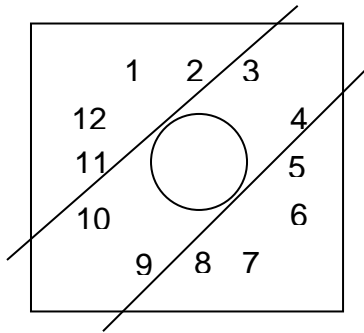
2. *These are suggested answers*

$(1+3) \times 5 - (3 \times 1) = 17$,
$1 \times 3 \times 5 + 3 - 1 = 17$

3. *This is a suggested answer*
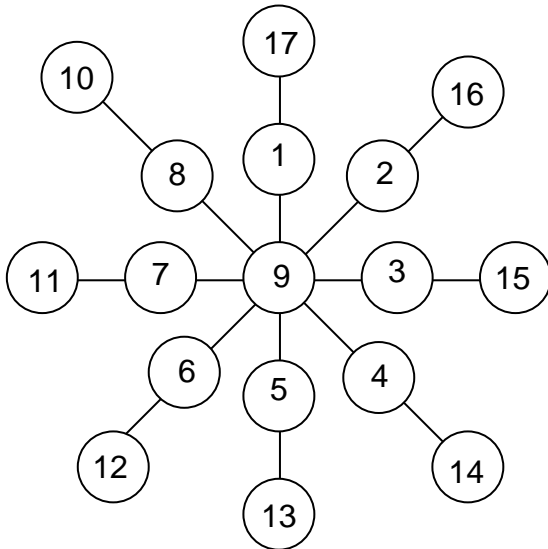
4. (Hexagon $\left(\dfrac{1+(5 \times 4)}{(5-2)} - (0+1) = 6 \right)$

5. *This is a suggested answer*
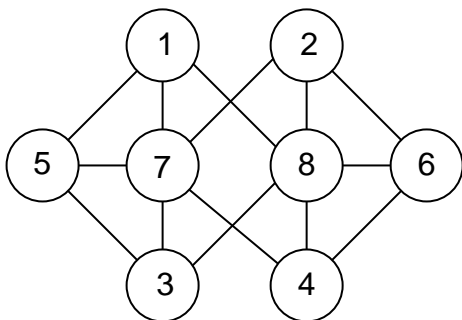
UNIT 8

1. $11 + 22 + 33 = 66$

2.

4	9	5	16
14	7	11	2
15	6	10	3
1	12	8	13

3. 30 days

4. Below *is a suggested answer*

$(5+5) \div 5 + (5 \times 5) - 5 = 22$

5. *Below is a suggested answer*
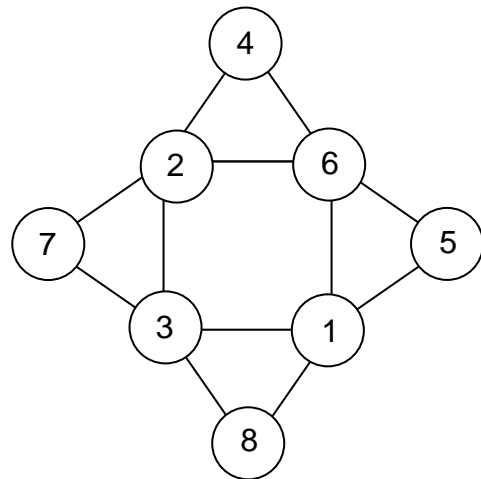
UNIT 9

1. *This is suggested answer*

   $6 \div 2 + 10 \times (4 + 8) = 123$

2.
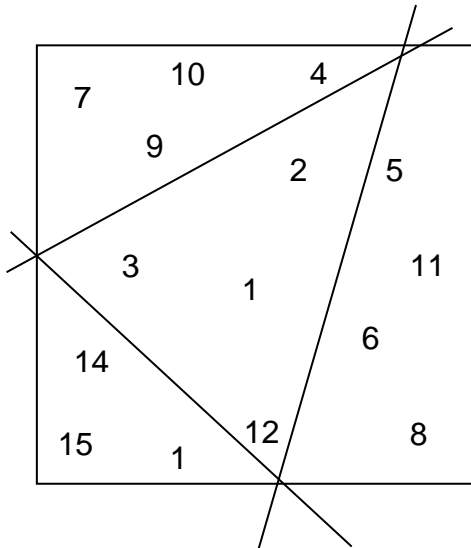
3. *This is a suggested answer*
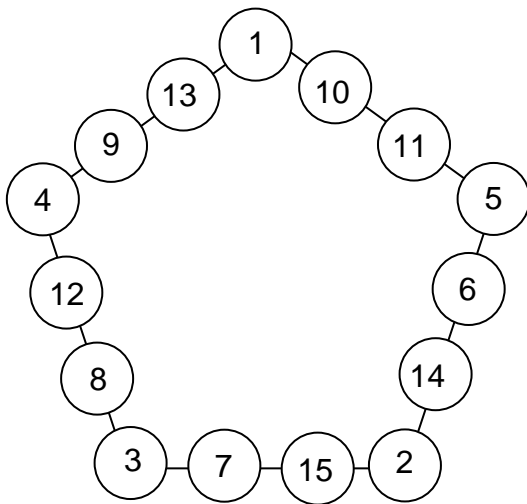
   Another answer:
   1,15,9,2 2,14,8,3 3,13,7,4 4,12,6,5
   5,11,10,1

4.   45 km/h

5. *This is a suggested answer*
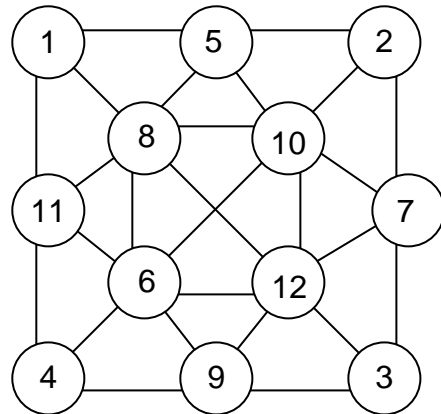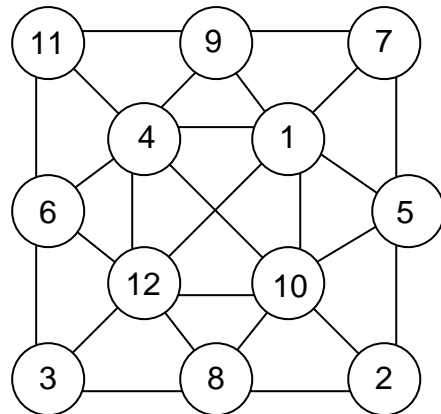
   Another answer

UNIT 10

1. *This is a suggested answer*

   $(2 + 3) \times (3 \times 3) \times (2 - 1)$

   Another answer

   $(1+2+2) \times (3+3+3)$

2. $28 - 6 = 22$

3.

2	19	14	5	25
23	11	10	18	3
22	20	13	6	4
17	8	16	15	9
1	7	12	21	24

4. *There are several answers which meet the requirements, two examples are:*
   - a 1 kg box, 2 kg box, 4 kg box, 5 kg box and 11 kg box
   - a 1 kg box, 2 kg box, 4 kg box and two 8 kg boxes

5. *This is a suggested answer*
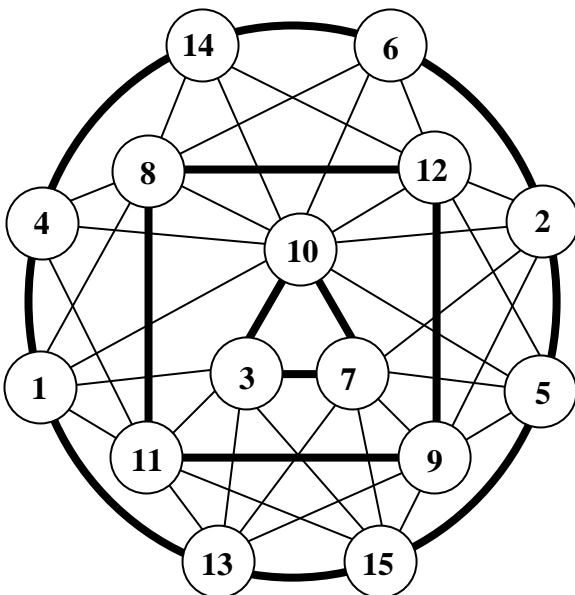
Mental Maths

ANSWERS

Term 1

YEAR 6

UNIT 1

Day 1

(1) $12\frac{1}{2}$

(2) $1\frac{3}{4}$

(3) $\frac{1}{4}$

(4) $\frac{23}{30}$

(5) $13\frac{1}{3}$

(6) $\frac{1}{2}$

(7) $2\frac{2}{5}$

(8) $1\frac{7}{40}$

(9) $\frac{43}{70}$

(10) $3\frac{1}{9}$

Day 2

(1) $\frac{1}{8}$

(2) $\frac{43}{60}$

(3) 4

(4) $2\frac{1}{9}$

(5) $\frac{11}{30}$

(6) $\frac{1}{2}$

(7) $6\frac{2}{3}$

(8) 6

(9) $\frac{7}{20}$

(10) $3\frac{5}{6}$

Day 5

(1) $\frac{1}{20}$

(2) $8\frac{7}{12}$

(3) $3\frac{12}{35}$

(4) $\frac{3}{10}$

(5) $1\frac{13}{19}$

(6) 76

(7) $\frac{19}{24}$

(8) $\frac{1}{18}$

(9) $8\frac{3}{4}$

(10) 10

Day 3

(1) $5\frac{1}{2}$

(2) $\frac{25}{224}$

(3) $21\frac{1}{4}$

(4) $\frac{49}{60}$

(5) $2\frac{2}{3}$

(6) $6\frac{1}{2}$

(7) $1\frac{11}{20}$

(8) $\frac{1}{3}$

(9) $1\frac{11}{24}$

(10) $6\frac{3}{5}$

Day 4

(1) $\frac{1}{2}$

(2) 18

(3) $7\frac{1}{2}$

(4) $\frac{19}{36}$

(5) $9\frac{3}{4}$

(6) $1\frac{1}{3}$

(7) 7

(8) $6\frac{1}{9}$

(9) $\frac{2}{3}$

(10) $\frac{3}{32}$

Day 6

(1) $5\frac{19}{25}$

(2) $\frac{65}{72}$

(3) $2\frac{23}{48}$

(4) $\frac{29}{72}$

(5) $3\frac{1}{6}$

(6) $\frac{21}{40}$

(7) $3\frac{7}{20}$

(8) $3\frac{13}{28}$

(9) $3\frac{1}{4}$

(10) $\frac{5}{42}$

UNIT 2

Day 1

(1) $\dfrac{1}{3}$

(2) $\dfrac{1}{3}$

(3) 0

(4) 0

(5) 0

(6) 0

(7) $\dfrac{9}{20}$

(8) $\dfrac{9}{20}$

(9) $\dfrac{7}{60}$

(10) $\dfrac{7}{60}$

(11) $1\dfrac{29}{36}$

(12) $1\dfrac{29}{36}$

Day 2

(1) $\dfrac{45}{56}$

(2) $\dfrac{45}{56}$

(3) $\dfrac{17}{56}$

(4) $\dfrac{17}{56}$

(5) $\dfrac{3}{5}$

(6) $\dfrac{3}{5}$

(7) $\dfrac{21}{32}$

(8) $\dfrac{9}{64}$

(9) $\dfrac{7}{120}$

(10) $\dfrac{7}{120}$

(11) $2\dfrac{1}{12}$

(12) $2\dfrac{1}{12}$

Day 3

(1) $\dfrac{55}{72}$

(2) $\dfrac{55}{72}$

(3) $\dfrac{19}{72}$

(4) $\dfrac{19}{72}$

(5) $\dfrac{1}{12}$

(6) $\dfrac{1}{12}$

(7) $1\dfrac{1}{30}$

(8) $1\dfrac{1}{30}$

Day 4

(1) $5\dfrac{11}{12}$

(2) $5\dfrac{5}{12}$

(3) $4\dfrac{1}{12}$

(4) $4\dfrac{7}{12}$

(5) $4\dfrac{1}{12}$

(6) $4\dfrac{7}{12}$

(7) $\dfrac{1}{4}$

(8) $\dfrac{1}{4}$

Day 3

(9) $\dfrac{11}{30}$

(10) $\dfrac{11}{30}$

(11) $1\dfrac{7}{8}$

(12) $1\dfrac{7}{8}$

Day 4

(9) $\dfrac{1}{20}$

(10) $\dfrac{1}{20}$

(11) $\dfrac{5}{36}$

(12) $\dfrac{5}{36}$

Day 5

(1) $4\dfrac{1}{2}$

(2) $4\dfrac{1}{6}$

(3) $3\dfrac{1}{2}$

(4) $3\dfrac{5}{6}$

(5) $3\dfrac{1}{2}$

(6) $3\dfrac{5}{6}$

(7) $1\dfrac{1}{15}$

(8) $1\dfrac{1}{15}$

(9) $\dfrac{2}{15}$

(10) $\dfrac{2}{15}$

(11) $\dfrac{40}{147}$

(12) $\dfrac{40}{147}$

Day 6

(1) $7\dfrac{3}{8}$

(2) $6\dfrac{1}{8}$

(3) $4\dfrac{5}{8}$

(4) $5\dfrac{7}{8}$

(5) $4\dfrac{5}{8}$

(6) $5\dfrac{7}{8}$

(7) $\dfrac{17}{21}$

(8) $\dfrac{17}{21}$

(9) $\dfrac{1}{7}$

(10) $\dfrac{1}{7}$

(11) $\dfrac{7}{16}$

(12) $\dfrac{7}{16}$

UNIT 3

Day 1

(1) 2

(2) $2\frac{11}{15}$

(3) $14\frac{2}{3}$

(4) $5\frac{17}{33}$

(5) $\frac{14}{25}$

(6) $2\frac{13}{25}$

(7) $2\frac{1}{9}$

(8) $3\frac{4}{13}$

(9) $2\frac{1}{8}$

(10) $9\frac{1}{28}$

(11) $3\frac{1}{3}$

(12) $\frac{7}{8}$

Day 2

(1) $2\frac{5}{24}$

(2) $4\frac{1}{12}$

(3) $1\frac{3}{4}$

(4) $3\frac{2}{3}$

(5) $\frac{8}{27}$

(6) $8\frac{1}{3}$

(7) $3\frac{1}{9}$

(8) $\frac{7}{8}$

(9) $4\frac{34}{39}$

(10) $5\frac{5}{6}$

(11) $\frac{7}{20}$

(12) $1\frac{1}{39}$

Day 3

(10) $7\frac{19}{40}$

(11) $2\frac{22}{45}$

(12) $3\frac{4}{5}$

Day 4

(11) 4

(12) $6\frac{29}{135}$

Day 5

(1) $\frac{3}{4}$

(2) $1\frac{1}{5}$

(3) 1

(4) $1\frac{3}{10}$

(5) $11\frac{5}{6}$

(6) $\frac{1}{2}$

(7) $13\frac{1}{8}$

(8) $2\frac{1}{2}$

(9) $2\frac{17}{72}$

(10) $1\frac{19}{56}$

(11) $\frac{1}{3}$

(12) $9\frac{13}{18}$

Day 6

(1) $4\frac{5}{8}$

(2) $1\frac{4}{7}$

(3) $21\frac{3}{4}$

(4) $8\frac{2}{5}$

(5) $8\frac{4}{9}$

(6) $\frac{9}{20}$

(7) $10\frac{5}{6}$

(8) $\frac{52}{75}$

(9) $6\frac{17}{54}$

(10) $3\frac{26}{63}$

(11) $4\frac{4}{15}$

(12) $1\frac{1}{8}$

Day 3

(1) $2\frac{9}{28}$

(2) 1

(3) $\frac{11}{20}$

(4) $2\frac{11}{12}$

(5) $4\frac{31}{36}$

(6) $\frac{5}{9}$

(7) 3

(8) $2\frac{2}{15}$

(9) $12\frac{7}{33}$

Day 4

(1) $2\frac{14}{15}$

(2) $\frac{9}{50}$

(3) $1\frac{7}{30}$

(4) $5\frac{13}{24}$

(5) $10\frac{1}{3}$

(6) 1

(7) $3\frac{77}{120}$

(8) $\frac{5}{7}$

(9) $7\frac{13}{20}$

(10) $2\frac{18}{19}$

UNIT 4

Day 1

(1)   17

(2) $\dfrac{1}{5}$

(3) $1\dfrac{5}{8}$

(4) $\dfrac{77}{180}$

(5) $\dfrac{10}{21}$

(6) $\dfrac{10}{21}$

(7) $\dfrac{43}{45}$

(8) $\dfrac{4}{11}$

(9) $1\dfrac{13}{42}$

(10) $1\dfrac{13}{42}$

(11) $\dfrac{1}{14}$

(12) $\dfrac{1}{14}$

Day 2

(1) $1\dfrac{37}{40}$

(2)   63

(3) $\dfrac{3}{8}$

(4) $\dfrac{3}{8}$

(5) $\dfrac{1}{6}$

(6) $\dfrac{1}{6}$

(7) $3\dfrac{1}{4}$

(8) $3\dfrac{3}{20}$

(9) $1\dfrac{3}{20}$

(10) $1\dfrac{3}{20}$

(11) $3\dfrac{11}{21}$

(12) $3\dfrac{11}{21}$

Day 3

(1) $2\dfrac{13}{15}$

(2) $4\dfrac{9}{14}$

(3)   2

(4) $1\dfrac{5}{7}$

(5)   230

(6)   230

(7) $1\dfrac{1}{2}$

(8) $5\dfrac{5}{12}$

(9)   1

Day 4

(1) $1\dfrac{7}{15}$

(2) $\dfrac{8}{45}$

(3) $\dfrac{49}{132}$

(4) $1\dfrac{10}{17}$

(5) $\dfrac{7}{16}$

(6) $1\dfrac{5}{8}$

(7) $1\dfrac{1}{15}$

(8) $\dfrac{5}{18}$

(9) $3\dfrac{23}{36}$

Day 3

(10) $3\dfrac{2}{15}$

(11) $\dfrac{17}{40}$

(12) $\dfrac{17}{40}$

Day 4

(10) $1\dfrac{16}{35}$

(11) $1\dfrac{16}{35}$

(12) $8\dfrac{17}{24}$

Day 5

(1) $1\dfrac{3}{8}$

(2) $\dfrac{7}{12}$

(3) $1\dfrac{1}{5}$

(4) $13\dfrac{1}{2}$

(5)   56

(6)   56

(7) $2\dfrac{2}{9}$

(8) $3\dfrac{5}{8}$

(9) $5\dfrac{2}{3}$

(10) $1\dfrac{5}{12}$

(11)   4

(12)   4

Day 6

(1) $13\dfrac{62}{75}$

(2) $\dfrac{4}{15}$

(3) $\dfrac{4}{15}$

(4) $\dfrac{1}{90}$

(5) $3\dfrac{23}{24}$

(6) $3\dfrac{23}{24}$

(7) $3\dfrac{1}{3}$

(8) $\dfrac{2}{99}$

(9) $1\dfrac{1}{3}$

(10) $1\dfrac{1}{4}$

(11) $1\dfrac{3}{5}$

(12) $\dfrac{16}{25}$

UNIT 5

Day 1

(1) $\dfrac{1}{15}$

(2) $\dfrac{2}{15}$

(3) $2\dfrac{1}{6}$

(4) $\dfrac{1}{5}$

(5) $1\dfrac{3}{5}$

(6) $\dfrac{5}{48}$

(7) $\dfrac{5}{6}$

(8) $\dfrac{3}{4}$

(9) $\dfrac{13}{15}$

(10) 2

Day 2

(1) $3\dfrac{1}{15}$

(2) $1\dfrac{2}{5}$

(3) $\dfrac{1}{20}$

(4) 3

(5) $\dfrac{7}{18}$

(6) $\dfrac{9}{20}$

(7) $1\dfrac{4}{15}$

(8) $5\dfrac{1}{5}$

(9) $\dfrac{3}{10}$

(10) $1\dfrac{3}{5}$

Day 3

(1) $\dfrac{3}{8}$

(2) $\dfrac{4}{15}$

(3) 6

(4) $3\dfrac{1}{12}$

(5) $8\dfrac{1}{8}$

(6) $\dfrac{3}{5}$

(7) $\dfrac{11}{20}$

(8) $\dfrac{13}{24}$

(9) $\dfrac{5}{33}$

(10) $2\dfrac{3}{20}$

Day 4

(1) 1

(2) $3\dfrac{1}{2}$

(3) $\dfrac{1}{7}$

(4) $4\dfrac{1}{2}$

(5) $\dfrac{15}{64}$

(6) $\dfrac{5}{28}$

(7) 1

(8) $2\dfrac{2}{9}$

(9) $4\dfrac{1}{6}$

(10) $\dfrac{20}{27}$

Day 5

(1) $5\dfrac{4}{5}$

(2) $1\dfrac{17}{20}$

(3) $2\dfrac{1}{2}$

(4) $1\dfrac{1}{3}$

(5) $1\dfrac{13}{15}$

(6) $\dfrac{1}{4}$

(7) $5\dfrac{8}{15}$

(8) $3\dfrac{3}{4}$

(9) $2\dfrac{6}{25}$

(10) $\dfrac{9}{28}$

Day 6

(1) $1\dfrac{19}{30}$

(2) $\dfrac{7}{30}$

(3) $1\dfrac{4}{25}$

(4) $3\dfrac{2}{45}$

(5) $39\dfrac{1}{3}$

(6) $\dfrac{1}{6}$

(7) $1\dfrac{3}{4}$

(8) $5\dfrac{3}{10}$

(9) $4\dfrac{1}{14}$

(10) $\dfrac{7}{20}$

UNIT 6

Day 1

1. 4
2. 4
3. 1
4. 3
5. 2
6. 25
7. 8
8. 16
9. 19
10. 24

Day 2

1. 12
2. 22
3. 6
4. 19
5. 20
6. 12
7. 27
8. 8
9. 18
10. 19

Day 3

1. -2
2. -4
3. -8
4. -3
5. -2
6. -1
7. -5
8. -1
9. -4
10. -4

Day 4

1. -17
2. -12
3. -17
4. -2
5. -20
6. -23
7. -29
8. -38
9. -18
10. -34

Day 5

1. -15
2. -21
3. -30
4. -9
5. -21
6. -18
7. -16
8. -18
9. -16
10. -48

Day 6

1. 9
2. 18
3. 12
4. 16
5. -3
6. -4
7. -25
8. -37
9. -37
10. -44

UNIT 7

Day 1

1. 9t
2. 17a
3. 31g
4. 10c
5. 48w
6. 11p
7. 4q
8. 19f
9. 24r
10. 17k

Day 2

1. 11a + 3
2. 17B + 5
3. 18y + 27
4. 41A + 68
5. 24x + 9
6. 56e + 8 v
7. 47w + 13
8. 62t + 46
9. 35D + 82
10. 11c + 94

Day 3

1. -3c
2. -7c
3. $-$V
4. -5m
5. -4e
6. -26P
7. -12b
8. -17z
9. -24g
10. -15w

Day 4

1. -33b + 25
2. -15m + 41
3. $6 - 10p$
4. 24w- 31
5. $93 - 40v$
6. $21A - 32$
7. $-28e - 29$
8. $-47 - 17c$
9. $-27a - 83$
10. -19 + 68N

Day 5

1. 93
2. 10
3. 3
4. 39
5. 63
6. 5.5
7. 11.5
8. 25
9. 7
10. 8

Day 6

1. 21g
2. 9A
3. 11w + 14
4. 77 + 51b
5. -6p
6. -16z
7. $-42 - 37m$
8. $85 - 35a$
9. 21
10. 30

UNIT 8

Day 1
1. 3
2. 6
3. 5
4. 8
5. 6
6. 8
7. 4
8. 4
9. 3
10. 6

Day 2
1. 5
2. 0
3. 3
4. 1
5. 29
6. 13
7. 12
8. 11
9. 31
10. 55

Day 3
1. 4
2. 9
3. 6
4. 5
5. 8
6. 105
7. 88
8. 91
9. 102
10. 108

Day 4
1. 7
2. 12
3. 76
4. 7
5. 4
6. 1
7. 69
8. 28
9. 17
10. 82

Day 5
1. 8b
2. 3p
3. 28c
4. 9V
5. 55
6. 42
7. 32w
8. 18Y
9. 9h
10. 56e

Day 6
1. 4
2. 8
3. 4
4. 39
5. 7
6. 468
7. 13
8. 11
9. 30C
10. 13a

UNIT 9

Day 1
1. 3 : 7
2. 5 : 4
3. 8 : 5
4. 11 : 3
5. 8 : 15
6. 20 : 13
7. 15 : 32
8. 2 : 7
9. 16 : 9
10. 2 : 3

Day 2
1. 7b : 16c
2. 15V : 4a
3. 9d : 13m
4. 9e : 17v
5. 8h : 19p
6. 19a : 25w
7. 6p : 13q
8. 21z : 11a
9. 23E : T
10. 3n : 2x

Day 3
1. 4 : 7
2. 3 : 2
3. 40 : 21
4. 7 : 6
5. 3 : 4
6. 9 : 10
7. 7 : 12
8. 2 : 3
9. 7 : 8
10. 9 : 14

Day 4
1. 6 : 22 : 15
2. 12 : 5 : 8
3. 5 : 11 : 15
4. 12 : 9 : 16
5. 3 : 5 : 4
6. 3 : 1 : 6
7. 13 : 19 : 26
8. 12 : 4 : 7
9. 16 : 9 : 4
10. 11 : 20 : 5

Day 5
1. 6 : 9 : 20
2. 40 : 21 : 30
3. 7 : 4 : 6
4. 6 : 10 : 7
5. 15 : 20 : 6
6. 40 : 30 : 21
7. 21 : 15 : 20
8. 9 : 10 : 8
9. 6 : 6 : 7
10. 20 : 21 : 24

Day 6
1. 5 : 8
2. 16 : 13
3. 4w : 9p
4. 23v : 9m
5. 2 : 5
6. 10 : 9
7. 4 : 11 : 17
8. 2 : 5 : 4
9. 8 : 10 : 7
10. 35 : 32 : 20

UNIT 10

Day 1

1. 3 : 5
2. 7 : 4
3. 38 : 49
4. 9 : 2
5. 12 : 5
6. 16 : 75
7. 14 : 3
8. 13 : 50
9. 7 : 100
10. 65 : 3

Day 2

1. 3 : 2
2. 1 : 2
3. 5 : 2
4. 2 : 5
5. 13 : 3
6. 25 : 2
7. 20 : 3
8. 8 : 5
9. 48 : 25
10. 11 : 4

Day 3

1. 8 : 11 : 17
2. 9 : 15 : 5
3. 5 : 4 : 7
4. 16 : 11 : 18
5. 25 : 15 : 23
6. 14 : 6 : 7
7. 19 : 7 : 5
8. 22 : 15 : 17
9. 7 : 15 : 9
10. 1 : 2 : 3

Day 4

1. 30 : 42
2. 39 : 33
3. 20 : 52
4. 44 : 28
5. 27 : 45
6. 40 : 32
7. 36 : 36
8. 51 : 21
9. 57 : 15
10. 46 : 26

Day 5

1. 40 : 60 : 140
2. 48 : 132 : 60
3. 80 : 32 : 128
4. 130 : 70 : 40
5. 72 : 16 : 152
6. 90 : 105 : 45
7. 36 : 36 : 168
8. 112 : 32 : 96
9. 125 : 55 : 60
10. 24 : 198 : 18

Day 6

1. 2 : 3
2. 25 : 2
3. 4 : 5
4. 29 : 20
5. 4 : 3 : 6
6. 18 : 13 : 8
7. $9 : $36
8. $24 : $21
9. $66 : $18 : $66
10. $30 : $75 : $45

English

ANSWERS

Term 1

YEAR 6

UNIT 1

Set 1 Strategy: Recognising Fact and Opinion

1. (a)
2. (a) Sensation O
   (b) Today F
   (c) Female F
   (d) Metre F
   (e) Teenager F
   (f) Hawaii F
   (g) Horror O
   (h) Scored F
   (i) Good O
   (j) Luckily O
3. Student's own answers

Set 2 Novel Extract: The Redback Leftovers

1. (a)
2. (a)
3. (b)
4. (b)
5. (d)
6. (d)
7. (b)
8. (d)
9. (c)
10. (b)

Set 3 Cartoons

1. (c)
2. (b)
3. Because it shows dead trees that have been cut down, which insinuates what is about to happen to the last tree in the picture.
4. The tree is about to be cut down.
5. That trees will be so rare that we will have to attach them to ourselves in order to get our oxygen supply.
6. Humans are responsible for recklessly destroying ecosystems and the environment; and for causing the death of so much life – i.e. all types of flora and fauna.

GRAMMAR

1. My sister likes to **eat** chicken more than any other meat.
2. I **imagine** that it would be extremely dangerous to **surf** during a thunderstorm.
3. Hundreds of people had gathered in the street to **protest** against the government's new laws.
4. On rainy days, Natalie likes to **stare** out the window, while listening to soothing music.
5. Joanna stood up to **recite** a poem in front of all of the guests.
6. During the presentations, Michael began to **wonder** if he would receive a trophy for his efforts
7. Rowena wanted to **express** her concern about the new work agreements.
8. My friend Vickie likes to **swim** in outdoor pools more than indoor pools, especially when it rains.
9. The company director planned to **announce** his resignation at the final executive meeting for the year.
10. Martha likes to **jog** every morning before breakfast.

PUNCTUATION

At last, it was time for PE with Mr Flower. Carey and Winston stood with the rest of the class doing stretching exercises. Then they did a bit of slow jogging on the spot, before Mr Flower sent them to run around the oval. PE usually started like this, but nobody, not even Carey, could ever estimate what they would do next. Mr Flower was the most unpredictable teacher at the school.

'Maybe he never knows himself what we're going to do next,' suggested Carey, when they were halfway around the oval.

'Maybe,' agreed Winston, between puffs.

UNIT 2

Set 1 Strategy: Word Meaning in Context

mere	little
endearing	charming
foliage	leaves
pallid	pale
reposeful	calm
comely	attractive
boulder	big rock

Set 2 Poetry: The Negro Mother

1. (b)
2. (d)
3. (c)
4. (c)
5. (b)
6. (c)
7. (a)
8. (b)
9. (d)
10. (a)

Set 3 Book Review: A Two-way Street

1. (c)
2. (d)
3. (a)
4. (b)
5. (d)
6. (d)
7. (b)
8. (b)
9. Answers will vary. Example: In our society today we have become far too complacent and our eyes are shut off to what is happening around us.
10. Answers will vary. Melissa may have found a reason to live in a near death experience.

GRAMMAR

1. The sky **APPEARED** extremely dark and in no time there was a heavy thunderstorm.
2. I **WONDER** if my niece has been to Wonderland before.
3. Starting a netball team **SEEMS** like a fantastic idea!
4. My enemy **BECAME** my friend after I apologised at the school picnic.
5. The teacher **APPEARED/LOOKED** disappointed with the test results.
6. Freshly mowed grass **SMELLS** great!
7. The students **APPEARED / FELT / SEEMED** excited when the new school captains were announced at assembly.
8. The residents **REMAIN** cautious even though the flood waters have receded.

VOCABULARY

1. **Pseudonym** – a fictitious name authors use to conceal their identity
   Acquired – received.
   Raconteur – a good story teller.
   Irascible – easily angered.
   Transcended – go beyond
2. (a) pseudonym
   (b) acquired
   (c) raconteur
   (d) irascible
   (e) transcended

UNIT 3

Set 1 Strategy : Figurative Language

1. (b)
2. people like ladders, words like knives It's familiar, like an ancient lullaby
3. We are Hosea's wife.

Set 2 Explanation

1. (c)
2. (b)
3. (b)
4. (b)
5. (b)

6. (a)
7. (c)
8. (d)
9. Stage Two.
10. Eyes flicker back and forth rapidly, legs and facial muscles may twitch, brainwaves speed up, dreams occur, heart rate increases and breathing is rapid and shallow.

Set 3 Visual Analysis

1. (a)
2. (c)
3. (b)
4. The mood is sad and gloomy.
5. As her countenance seems anxious, the economic situation of the people photographed is desperate.
6. That the mother is responsible for the children and the economic situation in the society is having a negative impact on the family.

GRAMMAR

1. He **HAS** not delivered the desired test results.
2. The missing bracelet **HAS** never been found.
3. **WILL** you **walk** with me to the shops tomorrow?
4. They **ARE having** a fantastic time this summer.
5. The school board **HAS** recently decided to include the school captain in their discussions about school policy.
6. She **COULD** enter the competition this afternoon if it's not too late.
7. "I **SHALL/WILL** always be here for you if you need me," vowed the coach.
8. Ella and Zach **WILL** probably be the first children to win special peace prizes.

PUNCTUATION

Then Carey got a little bit ahead of Winston. He wanted to stay beside him, because they were friends, but he couldn't

help running as fast as possible. He finished first and wasn't even puffing. Mr Flower was sitting on the bench at the edge of the oval patting the school dog, Dipper.

'Good on ya, mate,' he said, as Carey ran up to him. 'Now see what you can do with this while we wait for the others to finish.'

UNIT 4

Set 1 Strategy: Finding the Main Idea

1. (d)
2. (b)

Set 2 Novel Extract: Stella by the Sea

1. (a)
2. (b)
3. (c)
4. (b)
5. (a)
6. (c)
7. (a)
8. (b)
9. (c)
10. Answers will vary

Set 3: Novel Extract: Stella by the Sea (2)

1. (c)
2. (a)
3. (b)
4. (b)
5. (b)
6. (c)
7. (d)
8. (b)
9. (d)
10. Mary's answer, niggled away in her mind like an itchy insect bite that was just out of reach.

GRAMMAR

I **snap** the phone shut, run down to the water's edge and **throw** the mobile in one perfect, curving arc right out into the sea. It **glints** silver as it breaks the surface with a splash, then **sinks** without trace.

I turn away, furious, marching along the shore, but within minutes I trip, **scrambling** over a knot of gnarled tree roots, falling heavily. I've **torn** one of the ribbon ties on my sandal, and a hot, burning pain **shoots** through my left ankle. My eyes **prickle** with tears of anger, but I won't cry. I never cry - not since Dad **left**, anyhow. It'd be like letting him see how much he **hurt** me. Crying is for kids. I scream instead, a bloodcurdling yell that **startles** the birds and shakes the treetops before tailing off to a whimper.

I pull off my wedge heels and fling them away into the trees ahead of me, because they **have** ripped my feet to shreds and I don't care if I never **see** them again as long as I live.

VOCABULARY

1. progress
2. regions
3. curbing
4. leapfrog
5. vulnerability
6. concentrations
7. resilience
8. ratified

UNIT 5

Set 1 Strategies:
   Recalling Facts and Details

1. (b)
2. (a)
3. (c)
4. (a)
5. (a)
6. (b)
7. (c)
8. (b)

Set 2 Map

1. (a)
2. (c)
3. (b)

4. (d)
5. (a)
6. (b)
7. (b)
8. (b)
9. (c)
10. (a)

Set 3 Poetry: Eliza Crossing the River

1. Because she was running away from the trader who wanted to take her child.
2. (b)
3. (c)
4. (b)
5. (b)
6. (a)
7. (a)
8. By stepping on blocks of ice.
9. Pray
10. If you help other people, God will help you.

GRAMMAR

1. She owns a beautiful cottage in the Blue Mountains, with a spectacular view of The Three Sisters.
2. Jeremiah is a professional basketball player, who is also a talented softball player, but he is pitiful at golf.
3. Rohan is away for long periods of time and he leaves his wife and family at home, as he often travels around Australia by airplane.
4. Chelsi has recently been awarded a citizenship award at PLC, where she and her sister Trinity are school captains.
5. Kylie is going on holidays to Hawaii for Christmas because her family lives there and it is also her favourite holiday destination.

PUNCTUATION

Carey was surprised to be handed a football, but he ran up and down, bouncing and catching it, just like he'd seen them do on telly. Then he thought perhaps he'd kick a goal, seeing as he was near the goalposts. So he held the footy with both hands, and angled it a little towards the

ground. He looked at the gap between the posts, then at the ball, took a bit of a run up and kicked. He watched as the ball sailed in a beautiful parabola, straight through the centre of the goalposts. Then he ran to get the ball back to see if he could do it again, but before he had time to kick it he heard Mr Flower's whistle.

'Find a partner,' he yelled, 'and handball to each other, like this . . . no, not like that Derek. That's a flick pass. No open-handers and no throwing the ball.'

UNIT 6

Set 1 Strategies: Understanding Sequence

1. (c)
2. (c)
3. (d)
4. (d)

Set 2 Novel: Miss Potter

1. (b)
2. (a)
3. (c)
4. (b)
5. (b)
6. (d)
7. (c)
8. (d)
9. (a)
10. Students' own answers.

Set 3 Newspaper Article

1. (c)
2. (b)
3. (b)
4. (d)
5. (b)
6. (d)
7. (b)
8. (d)
9. (a)
10. (a)

GRAMMAR
Teacher.

VOCABULARY

1. **Premier** – high status
2. **Patronising** – looking down upon.
3. **Proliferated** – increase in number.
4. **Clash** - conflict
5. **Obsolete** – no longer relevant
6. **Gratitude** – being thankful
7. **Acute** - harsh
8. **Hazard** – danger

UNIT 7

Set 1 Strategy: Cause and Effect

1) (c)
2) (a)
3) The fact that more light can come into the lens. The aperture is wider with a smaller f-stop so more light can go though, making the picture brighter.
4) It will be out of focus.
5) (d)

Set 2 Biography: The Library of Nineveh

1) Collecting and storing books; making the first library.
2) (b)
3) Because it would mean he would be remembered through books written about him.
4) A scribe's job was to write down all of the events of the king's reign.
5) In the ruins of Babylon's old walls.
6) They were thick and heavy so they took up a lot of storage space.
7) Ashurbanipal desired to be remembered long after his death and the great deeds that he did to be remembered and this came to pass via the library he started.
8) (c)

Set 3 Poetry: Bellbirds

1) (d)
2) (c)
3) (b)
4) Because it has to get past all of the

trees as the flowers are on the ground, a long way down.
5) (a)
6) (c)
7) (b)
8) (b)

GRAMMAR *(answers will vary)*

1) Amanda likes to eat her main meal at lunchtime.
2) I have never been to America
3) The supermarket closes early on Sundays.
4) My sister likes to play netball in the afternoon.
5) Ferraris are very expensive cars.

VOCABULARY

1) (a)
2) (d)
3) (a)
4) (d)
5) (c)
6) (b)
7) (c)
8) (c)

1) dilapidated.
2) antagonise.
3) condone
4) competent.
5) attentive
6) insincere
7) capitulate.
8) insignificant

UNIT 8

Set 1 Strategy: Comparing and contrasting

1) (a)
2) Granite is a rock that can contain the mineral quartz.
3) (b)
4) (c)
5) (d)

Set 2 Book Review: Anne of Green Gables

1) (b)
2) (b)
3) (d)
4) In reviews 1 and 2 Marilla and Mathew are brother and sister (which is true), and in review two she speaks of them as husband and wife.
5) (d)
6) The second review encourages the reader to read the other books in the series, whereas the last review says not to read past 'Anne of the Island'.
7) (b)
8) Answers may vary. (Review One's language skills are far superior.)

Set 3 Novel Extract: Shooflies

1) (c)
2) (b)
3) (d)
4) (c)
5) (c)
6) (c)
7) (b)
8) (d)

GRAMMAR

1) raining
2) sleeping
3) crying
4) exchanging
5) working
6) cooking

PUNCTUATION

'Does Frank's mother know we are coming to look at these puppies?' mum asked, breaking her way into my most anxious thoughts.
Why do mums always worry about other mums knowing whether you are coming round or not? Molly's mum, Mrs Cook, is always happy to see me whenever I turn up as she says, 'It's nice to see you girls playing together,' and she always gives us flapjacks with apricots in, which she knows are my favourite.
I just shrugged and said, 'Frank said to come round.'
Mum sighed and muttered something about getting this over and done with.

UNIT 9

Set 1 Strategy: Making Predictions

1) (c)
2) (c)
3) (c)
4) (a)
5) The tortilla wouldn't be cooked properly on one side.

Set 2 Poem: 'Said Hanrahan' By John O'Brien

1) (a)
2) (d)
3) (b)
4) (a)
5) (d)
6) (b)
7) (d)
8) (d)

Set 3 Novel: The Princess and the Pirate

1) (a)
2) (c)
3) (b)
4) (c)
5) (a)
6) (b)
7) (a)
8) (a)

GRAMMAR

1. Yesterday the weather <u>was</u> pleasant but today it <u>is</u> very bleak.
2. Where <u>are</u> the chocolate biscuits? They <u>were</u> in the cupboard this morning.
3. Tonight I <u>am</u> going to stay in because last week I <u>was</u> out every night.
   Write is/isn't or were/weren't
4. My family <u>weren't</u> happy with their seats for the concert so my mum <u>is</u> writing a letter of complaint right now.
5. She <u>isn't</u> a very polite girl so they <u>weren't</u> too upset that she didn't come to the party.

6. We <u>were</u> amazed to find out that Kylie Minogue <u>is</u> the new queen of England.

VOCABULARY

1) (b)
2) (c)
3) (a)
4) (a)
5) impetuous
6) delectable
7) intimidate
8) beseech

UNIT 10

Set 1 Strategy: Words in Context

1) (b)
2) (b)
3) (b)
4) (c)
5) (b)
6) (b)

Set 2 Close Passage: Languages and Literature of North America

1) hardly
2) Missionaries
3) Christians
4) translate
5) language
6) popular
7) arguing
8) Enslaved
9) Norweigian
10) though

Set 3 Speech: Doris Lessing

1) (a)
2) (b)
3) Because of the terrible conditions at the school.
4) (d)
5) (c)
6) (c)
7) (b)
8) (c)

GRAMMAR

1) (a)
2) (c)
3) (d)
4) (b)
5) (c)

PUNCTUATION

'Would you mind?' said someone behind her.

'What? Oh…sorry.' She let the token fall through the slot. She pushed against the steel bar and into the space of the music. There was another pause between trains, a few bars, a stringed instrument, clearly, but also a tenor voice. Was it a cello that the singer was playing? Surely not. No street musician would cart such a large and unwieldy instrument down into the bowels of the city, onto the trains, among the crowds; but the sound seemed too soft for a violin, too husky, too throaty. She could feel the music graphing itself against her skin, her body calculating the frequencies and intervals of the whole subway symphony: base throb of trains, tenor voice, soft lament of the strings, a pleasing ratio of vibrations. Mathematical perfection made her weak at the knees.

Book Review

Teacher

Year 6 Enriching English

Unit 1 – Self-reflection

Question	Answer
1	A
2	D
3	B
4	B
5	C

Unit 2 – Novel Extract

Question	Answer
1	C
2	A
3	D
4	C
5	B

Unit 3 – Interview

Question	Answer
1	B
2	C
3	B
4	D
5	A

Unit 4 – Poem

Question	Answer
1	A
2	D
3	C
4	A
5	A

Unit 5 – Play

Question	Answer
1	B
2	D
3	C
4	D
5	A

Unit 6 – Cartoon

Question	Answer
1	B
2	B
3	B
4	D
5	C

Unit 7 – Film Review

Question	Answer
1	D
2	C
3	C
4	B
5	D

Unit 8 – Comic

Question	Answer
1	C
2	B
3	B
4	C
5	D

Unit 9 – Novel Extract

Question	Answer
1	B
2	D
3	A
4	A
5	D

Unit 10 – Blog Post

Question	Answer
1	D
2	B
3	B
4	D
5	C

General Ability

ANSWERS

Term 1

YEAR 6

UNIT 1

WORD LIST

1. scrutinise(d)
2. pilfer
3. surveillance
4. detour
5. sorcerer
6. refurbish
7. detrimental
8. strident
9. longevity
10. anguish
11. germinate
12. gossamer
13. ironmonger
14. goulash
15. receptive
16. terracotta
17. abdicate(d)
18. pretentious
19. enigma
20. apprehend

IDIOMS

1) has two left feet
2) a needle in a haystack
3) a slap in the face
4) a heart of gold
5) not give a hoot
6) forty winks

SYNONYMS

1) cultivate
2) comrade
3) dry
4) pierce
5) recommend
6) share

ANTONYMS

1) truth
2) promising
3) obey
4) demolish
5) proficient
6) condemn

MATCH MEANINGS

c) ellipse
a) enrage
e) ruinous
b) promptly
d) rupture

MATCH THE OCCUPATION

c) astrologer
a) vocalist
e) cobbler
b) herbalist
d) matador

SIMILES

1) maiden
2) post
3) sphere
4) death
5) pin

EXTENSION

1) greenhouse
2) atmosphere
3) space
4) effect
5) liveable
6) thousand
7) constant
8) fuels
9) emissions
10) temperature

G.A. test

1. B
2. C
3. D.
4. B
5. D
6. C, (11 x 50c) + (2 x 20c)
7. C, the rest are vegetables
8. C
9. A
10. lus, tre
11. D
12. B
13. D
14. B- "Flying is too stressful for some people."

15. C, (14 – 3) x 2 = 22
16. C
17. D
18. D
19. A
20. C
21. A
22. B
23. C
24. C
25. C
26. D
27. C
28. C
29. D
30. B

UNIT 2

WORD LIST

1. stupendous
2. deflate
3. diffuse(d)
4. heckle
5. festive
6. fatigue(d)
7. retrieve
8. terminus
9. barnacle(s)
10. intense
11. insinuate(d)
12. testify
13. defensive
14. pittance
15. emporium
16. capacious
17. bazaar
18. mattock
19. opaque
20. parachute

IDIOMS

1. c) restless and agitated
2. a) a difficult situation to deal with
3. f) there is no danger of being observed or caught
4. b) a day when several things go wrong
5. d) be quick about it
6. e) easily and decisively

SYNONYMS

1) bent
2) disability
3) retract
4) former
5) guiltless
6) request

ANTONYMS

d) detain
e) honest
b) master
f) inside
c) lowest
a) confinement

CONTAINERS

d) water for washing
c) pepper, salt, mustard
a) money, gold, etc.
e) powder
b) wine

HOMOPHONES

1. a) sort
   b) sought
2. a) meddle
   b) medal
3. a) bowled
   b) bold
4. a) whirled
   b) world
5. a) phial
   b) file

SIMILES

1) bear
2) barrel
3) flower
4) toothpick
5) millpond

EXTENSION

1) shortest
2) Sea
3) longest
4) waterfalls
5) mountainous
6) floodplain

7) protected
8) civilization
9) population
10) million

G.A. TEST

1. B
2. A
3. C
4. D
5. A
6. A
7. D
8. D
9. D
10. A
11. E
12. C
13. D
14. A
15. C, (45 – 30) x 13 = 195
16. A
17. D
18. B
19. C
20. B
21. C
22. D
23. C
24. A, All African zebras have many black stripes.
25. C
26. C
27. C
28. D
29. C
30. D

UNIT 3

WORD LIST

1. heinous
2. expulsion
3. bedridden
4. serene
5. facade
6. textile
7. garish
8. solitude
9. aviary
10. thesaurus
11. Bream
12. voracious
13. shingle
14. quiver
15. defiance
16. weakling
17. quadruped(s)
18. benevolent
19. ablaze
20. Mayonnaise

IDIOMS

1. upset the apple cart
2. putting the cart before the horse
3. acting like an ape
4. calculated risk
5. cool as a cucumber
6. cat nap

SYNONYMS

1. mesmerise
2. contrive
3. scandalous
4. drought
5. throng
6. routine

ANTONYMS

1. c) condemn
2. f) infinite
3. d) conceited
4. e) elderly
5. a) outermost
6. b) glorious

MATCH THE SOUNDS WITH THESE OBJECTS

1. c) screech
2. e) rumbles
3. d) reports
4. b) crunches
5. a) throbs

MATCH THE PLACES

1. a) arsenal
2. d) kindergarten

3. e) ginnery
4. c) seminary
5. b) vault

ANIMAL SIMILES

1) puppy
2) toad
3) peacock
4) jellyfish
5) ox

EXTENSION

1) quarry
2) paleontologist
3) trees
4) growing
5) Europasaurus
6) heavier
7) cousins
8) underwater
9) adapt
10) excavated

G.A. TEST

1. D
2. B (L 6skips ,E5, Y4, T3, P2, M)
3. D
4. A
5. B
6. A
7. A
8. THORN
9. D
10. B
11. A
12. D
13. B
14. B
15. B
16. A
17. C
18. D
19. D
20. A
21. C
22. D
23. B
24. D
25. A

26. D Their ideas were influenced by the speech.
27. B
28. B
29. A
30. B

UNIT 4

WORD LIST

1) dainty
2) elegant
3) foliage
4) artisan(s)
5) gymkhana
6) pulmonary
7) inhale
8) twinge
9) gamble
10) delicacy
11) aperture
12) macaw
13) menagerie
14) valour
15) encumber
16) stimulate(s)
17) distraught
18) hijack(ed)
19) underachiev(ing)
20) designate(d)

IDIOMS

1) c) to get an opportunity or a good deal
2) d) successful or profitable
3) b) extremely timid; cowardly
4) e) tell someone what you're thinking bout
5) a) worth what one is paid

SYNONYMS

1) endure
2) compulsory
3) duty
4) report
5) frantic
6) extreme

ANTONYMS

1) d) demand
2) e) speechless
3) f) permit
4) b) disorderly
5) a) agitated
6) c) reject

SIMILES

1) air
2) cupcake
3) worm
4) clown
5) rain

MATCH THE PEOPLE

1) c) cannibal
2) e) pariah
3) a) blackguard
4) b) royalist
5) d) infidel

HOMOPHONES

1) further
2) bald
3) route
4) hangar
5) pedal

EXTENSION

1) surges
2) destruction
3) tectonic
4) tsunami
5) landslides
6) ancient
7) meteorite
8) airplane
9) energy
10) force

G.A. TEST

1. A
2. A
3. C
4. D, it's a prime number
5. C
6. B, YOGHURT
7. D, Polish workers will now be making component parts for **B**oeing.
8. C
9. B
10. D
11. C
12. A
13. D
14. C
15. B
16. A, the rest are extinct
17. A
18. A
19. B
20. D
21. A, $(8 \times 9) - (5 \times 12) = 12$
22. B
23. B
24. D
25. C
26. B
27. B, the rest are stone fruit
28. B $8 \times (8+6) = 112$
29. C
30. B

UNIT 5

WORD LIST

1) ballot
2) laborious
3) prohibit
4) audacious
5) plunder(ed)
6) wither
7) auger
8) cardinal
9) lonesome
10) barely
11) grenade(s)
12) toupee
13) magenta
14) courier
15) encounter(ed)
16) tactile
17) brittle
18) mulch
19) dissuade
20) indicate(s)

IDIOMS

1) b) everyone will have his chance or turn
2) c) best of a group, the top choice
3) d) cash, coins and bills
4) e) directly from the person or place where something began
5) a) a task that is easily accomplished

SYNONYMS

1) compassion
2) interview
3) compile
4) contrive
5) inert
6) trifling

ANTONYMS

1) c) denounce
2) e) impure
3) d) sensible
4) b) stimulant
5) a) disappoint
6) f) pollute

AUSTRALIAN WORDS

1) b) bonkers
2) d) grouse
3) e) trunks
4) a) jumbuck
5) c) digger

MATCH THE OCCUPATION

1) d) auctioneer
2) a) chauffeur
3) c) executive
4) e) removalist
5) b) groom

SIMILES

1) cat
2) cherry
3) miser
4) doornail
5) loon

EXTENSION

1) China
2) uniting

3) originated
4) defence
5) attack
6) completed
7) rocks
8) enlarged
9) orbit
10) legend

G.A. TEST

1. B
2. B
3. B
4. A
5. B
6. B
7. C
8. C
9. A
10. C
11. C
12. B
13. D
14. C
15. C
16. B, PERIOD
17. C (add bottom base numbers then subtract top number)
18. B
19. A
20. B
21. B
22. D
23. D
24. E " Ben attached the line that was to **s**ave his life"
25. B
26. D
27. A
28. D
29. C
30. A

UNIT 6

WORD LIST

1) unconscious
2) omelette
3) utmost
4) collate(d)
5) mountainous
6) squander
7) horrendous
8) geyser
9) sleuth
10) oregano
11) conservatory
12) courgette
13) disclose(d)
14) antithesis
15) replenish
16) regale(d)
17) surmount(ed)
18) truculent
19) horticulture
20) roulette

IDIOMS

1. c) to get oneself into an awkward or difficult situation
2. f) very distant or remote
3. e) to feel disgust or revulsion
4. a) everything is functioning properly
5. d) make a mistake
6. b) very quickly

SYNONYMS

1) ending
2) greedy
3) dictator
4) fad
5) assume
6) plain

ANTONYMS

1. e) conceal
2. c) termination
3. f) contradict
4. d) divide
5. a) flourish
6. b) clean

MATCH THE PLACES

1) c) dispensary
2) e) brewery
3) a) incinerator
4) b) eyrie
5) d) synagogue

MATCH THE MEANING

1) c) besiege
2) a) congregation
3) e) culprit
4) b) pugnacious
5) d) henceforth

SIMILES

1) thieves
2) dungeon
3) dishrag
4) steeple
5) furnace

EXTENSION

1) coloured
2) insects
3) trees
4) quetzals
5) extinction
6) disappearance
7) preserve
8) ecotourists
9) sacred
10) priests

G.A. TEST

1. D
2. C
3. A
4. D
5. A
6. C
7. C
8. D
9. A, She vented her feelings in a violent <u>outburst</u>.
10. C
11. A
12. C
13. A
14. B
15. C

16. B
17. B
18. A
19. B $(75÷3)×9 = 225$
20. D
21. B
22. C, the rest are played with large teams
23. D
24. A
25. C
26. B
27. C
28. D
29. B
30. B

UNIT 7

WORD KNOWLEDGE

1. surly
2. viper
3. engross(ed)
4. insatiable
5. dislocate(d)
6. seminar
7. estate
8. pinafore
9. oppressive
10. frank
11. ineradicable
12. defile(d)
13. expend(ed)
14. discord
15. tremulous
16. locomotive
17. optimism
18. rapt
19. consternation
20. itinerant
21. subterranean
22. perturb(ed)
23. austere
24. erosion
25. afflict(ed)
26. inflame(d)
27. finicky
28. vulgar
29. blasphemy
30. apocalypse
31. inevitable
32. detestable
33. denote
34. holocaust
35. versatile
36. ruthless(ly)
37. abhor(red)
38. disposition
39. agile
40. contemptuous(ly)

IDIOMS

1. a stone's throw
2. anybody's guess
3. gave it a burl
4. high and mighty
5. breathe fire
6. in force

SYNONYMS

1. awaken
2. strengthen
3. captivate
4. breathe out
5. oppress
6. dishearten

ANTONYMS

1. d) refreshed
2. b) repulsive
3. e) complimentary
4. f) unstable
5. a) notice
6. c) austerity

MATCH MEANINGS

1. d) hybrid
2. a) passive
3. b) louring
4. e) meticulous
5. c) strident

MATCH THE OCCUPATION

1. c) auditor
2. e) apiarist
3. a) charwoman
4. d) curator
5. b) joiner

AMERICAN & ENGLISH WORDS

1. d) petrol
2. e) frying pan
3. a) cattle station
4. c) soft drink
5. b) railway line

SIMILES

1. soot
2. child
3. lightning
4. two year old
5. glass

EXTENSION - Penicillin

1. antibiotics
2. prevent
3. barrier

4. treated
5. availability
6. fungi
7. remedy
8. infections
9. miracle
10. penicillin

G.A TEST

1. c
2. b
3. a
4. d
5. a
6. c
7. d
8. d $46 = (26-3) \times 2$
9. b
10. a
11. c
12. b
13. d
14. b My uncle grows grapes on his estate in the country.
15. a (allergy)
16. d
17. c
18. b
19. a
20. a $(7 - 2) \times 3 = 12 + 3$
    $(19 - 4) \times 3 = 39 + 6$
    $(? - 3) \times 3 = 31 + 5 \rightarrow ? = 15$
21. c
22. c
23. c
24. c He was unable to take nourishment for several days.
25. c
26. d
27. b
28. b
29. b
30. b

UNIT 8

WORD KNOWLEDGE

1. accustom
2. complexion
3. pervade(d)
4. scintilla
5. submerge(d)
6. brandish(ed)
7. debris
8. chide(d)
9. proffer(ed)
10. coronet
11. baritone
12. fugitive
13. raucous
14. florid
15. defiant
16. adrift
17. apprehension
18. brawn
19. resolute
20. tallow
21. undulate(d)
22. dogmatic
23. inanimate
24. bravado
25. incredulous(ly)
26. irate
27. grotesque
28. ravine
29. cynic
30. exhort(ed)
31. zenith
32. fumigate(d)
33. pious
34. eclectic
35. fissure(s)
36. preordain(ed)
37. chasm
38. encumber(ed)
39. aberrant
40. cloister

IDIOMS

1. d) punish with loss of status
2. b) annoy or irritate someone intensely
3. a) be completely finished or ready
4. c) a struggle that is bound to end in failure

5. f) no special conditions or restrictions apply to an offer
6. e) unacceptable or unreasonable

SYNONYMS

1. procedure
2. trader
3. satisfactory
4. dauntless
5. refined
6. dream

ANTONYMS

1. e) destruction
2. f) constraint
3. b) mandatory
4. a) inconvenient
5. d) common
6. c) humble

CONTAINERS

1. d) tea
2. c) books
3. a) beer
4. b) coal
5. e) wine

HOMOPHONES

1. a) bore
    b) boar
2. a) gnaw
    b) nor
3. a) paste
    b) paced
4. a) sheer
    b) shear
5. a) who's
    b) whose

ODD ONE OUT

1. obscure
2. aggressive
3. careless
4. compassionate
5. versatile

COMPREHENSION

1. b)
2. c)

MID-TERMS

1. d)
2. a)

"TRI-" WORDS

1. c) trident
2. d) trilateral
3. e) trilogy
4. b) trisect
5. a) triplicate

SIMILES

1. changeable
2. plump
3. purple
4. smooth
5. fat

EXTENSION – Einstein

1. theories
2. academic
3. teenager
4. century
5. physics
6. significance
7. emitted
8. metals
9. Nobel
10. moving

UNIT 9

WORD KNOWLEDGE

1. exasperate(d)
2. indignation
3. gait
4. exterior
5. emigrate(d)
6. laboratory
7. scrupulous
8. taut
9. congested
10. betroth(ed)
11. milieu
12. expletive(s)
13. forlorn
14. spindly

15. reprove(d)
16. squalid
17. surmount
18. squall(ed)
19. wrath
20. intersperse
21. writhe(d)
22. lacklustre
23. atone
24. anguish
25. fervent(ly)
26. outright
27. precarious(ly)
28. cavernous
29. impenetrable
30. abreast
31. mar(red)
32. dulcet
33. amicable
34. vehement(ly)
35. incongruous
36. intercede
37. contrite
38. candelabrum
39. ingenious
40. inscrutable

IDIOMS

1. like a monkey on a stick
2. boots and all
3. clear as day
4. do a runner
5. in the same vein
6. have what it takes

SYNONYMS

1. suggestion
2. sulk
3. offend
4. essential
5. melancholy
6. companion

ANTONYMS

1. f) former
2. b) acquit
3. d) sullen
4. c) appropriate
5. e) separate
6. a) restore

MATCH THE SOUNDS

1. c) gibbers
2. d) skirl
3. a) bays
4. e) clang
5. b) blares

MATCH THE PLACES

1. a) incinerator
2. d) archives
3. e) gymnasium
4. c) quay
5. b) parsonage

ANALOGIES

1. mope
2. thwart
3. soul
4. cat
5. dampen

DEFINITIONS

1. generous and forgiving
2. make or become lower in value
3. a very steep place such as the face of a cliff

COMPREHENSION

1. c)
2. d)

FREQUENTLY MISSPELT WORDS

1. unconscious
2. grateful
3. mischievous
4. recommend
5. accommodation

ANIMAL SIMILES

1. ant
2. chicken
3. mule
4. gorilla
5. cat

EXTENSION – The ceiling of the Sistine Chapel

1. Michelangelo

2. golden
3. masterpieces
4. Apostles
5. Genesis
6. four
7. revealed
8. astounding
9. deteriorated
10. permanently

UNIT 10

WORD KNOWLEDGE

1. malleable
2. cascade(d)
3. privy
4. morose
5. desist
6. callous(ly)
7. concoct(ing)
8. emaciated
9. nimble
10. pauper
11. sporadic
12. deprivation
13. canker
14. escapade
15. preposterous
16. uncouth
17. treacle
18. proprietor
19. sullen
20. contraption
21. coerce(d)
22. poignant
23. reverie
24. fiasco
25. paraphernalia
26. copious
27. alcove
28. quell(ed)
29. infallible
30. informant
31. revulsion
32. disquiet
33. fathom
34. docile
35. gallantry

36. inexplicable
37. annotate(d)
38. complacent
39. interject(ions)
40. rotund

IDIOMS

1. c) go wrong
2. e) achieve the acquired result
3. a) make any mistake in performing an action
4. b) it is often wise to say nothing
5. d) be well informed

SYNONYMS

1. cistern
2. penetrate
3. flawless
4. indefinite
5. outrageous
6. elaborate

ANTONYMS

1. d) unhealthy
2. f) protect
3. b) generous
4. c) honest
5. a) recede
6. e) safe

MATCH THE PEOPLE

1. d) philanthropist
2. a) martinet
3. e) spendthrift
4. b) impostor
5. c) scapegoat

HOMOPHONES

1. bough
2. break
3. moan
4. chord
5. sleight

"MONO -" WORDS

1. d) monolith
2. a) monarch
3. e) monoplane
4. c) monopolise

5. b) monologue

ODD ONE OUT

1. treachery
2. submissive
3. agitate
4. hurry
5. lenient
6. ferocious
7. hauteur
8. somebody
9. ordinary

ANALOGIES

1. ruin
2. secular
3. spice
4. robust
5. wrist
6. absorb
7. ship
8. teach
9. needles

SIMILES

1. cold
2. fresh
3. flat
4. devoted
5. dull

EXTENSION – Terracotta Army

1. terracotta
2. buried
3. empire
4. mausoleum
5. craftsmen
6. unopened
7. exposure
8. remains
9. riches
10. massive