

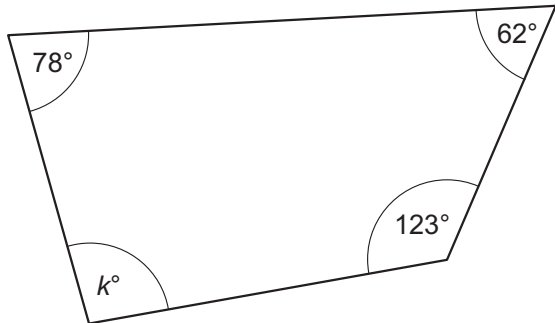
# Year 9 – Set One

Name ..... Date .....

Answer these questions without using a calculator or a protractor.

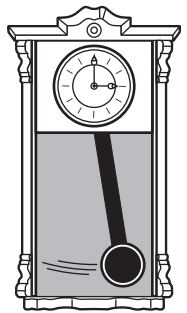
**1**

What is the value of  $k$  in this diagram?



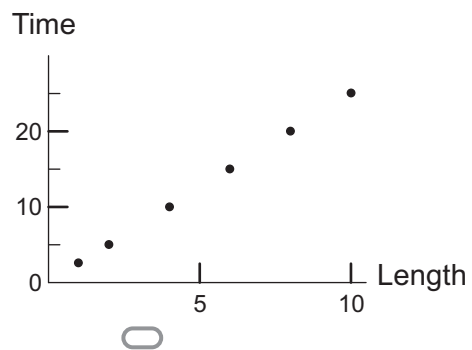
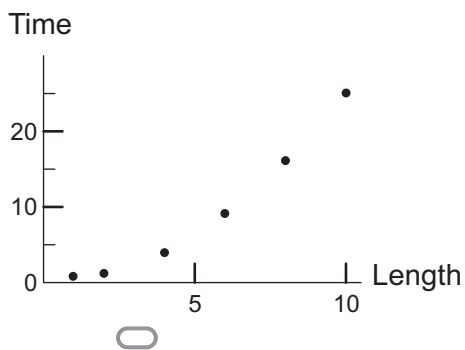
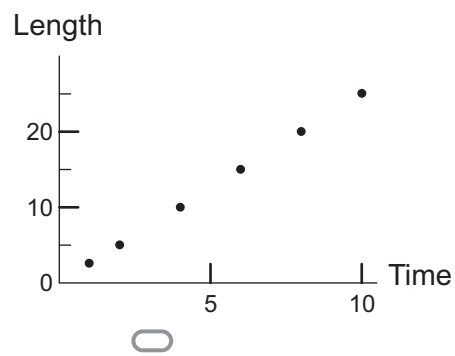
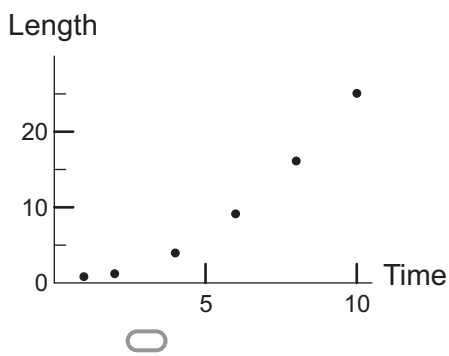
**2**

The time it takes a pendulum to swing out and back to where it started depends on its length. This table shows the time in seconds for pendulums up to 25 metres long.



Length (m)	0.25	1	4	9	16	25
Time (sec)	1	2	4	6	8	10

Which graph shows this information?



3

Which one of the following expressions is equivalent to  $3(2n + 4)$ ?

$6n + 4$

$5n + 12$

$2(3n + 6)$

$5n + 7$

4

This stem-and-leaf plot shows the numbers of houses in the nine streets of a new housing estate.

What is the **median** number of houses in the streets in the estate?

Stem	Leaf
0	7 8
1	0 0 2 8
2	2 3 5

**KEY**

1|6 = a street with 16 houses

10

11

12

15

5

Which of these has the same value as  $\frac{35}{15}$ ?

$1\frac{2}{3}$

$1\frac{2}{5}$

$1\frac{1}{5}$

$2\frac{1}{3}$

6

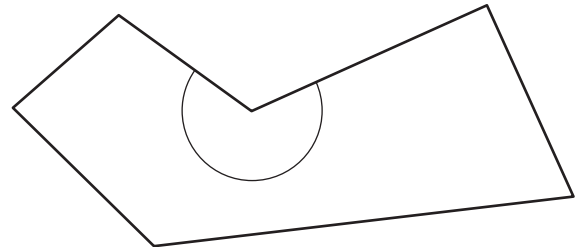
Which of these is the **best** estimate for the angle marked inside this hexagon?

$40^\circ$

$140^\circ$

$240^\circ$

$340^\circ$



7

What is the value of  $3^5 - 5^3$ ?

8

The perimeter of this rectangle is 90 cm. What is the value of  $p$ ?

14

16

29

31

