VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

AIM 2007

Achievement Improvement Monitor

Year 7

STATEWIDE ASSESSMENT

MATHEMATICS TEST 1

STUDENT DETAILS

TEST INSTRUCTIONS

1. **You must do your own work.**
2. **Do not speak to other students during the test.**
3. **Raise your hand if you need to speak to the teacher.**
4. **Follow all directions given to you by the teacher.**
5. **All questions must be answered using the pencil you have been given. If you need to change an answer, carefully erase it and write another answer.**
6. **You are NOT permitted to use a calculator of any type.**
7. **To confirm you have the correct booklet, print your name below.**

Print your name here:

YOU HAVE 45 MINUTES TO COMPLETE THIS TEST

Victoria
The Place To Be

Practice Questions

P1 Malcolm buys 4 CDs at $12 each.
What is the total cost?

- ○ $16
- ○ $24
- ○ $48
- ○ $60

P2 Which one of the numbers in the table is an odd number?

Number	2	3	4	6
	○	○	○	○

P3 $13 \times 2 =$ [ ]

Write your answer in the box

You have 45 minutes to complete this test.
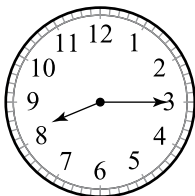## You are NOT permitted to use a calculator of any type.

1

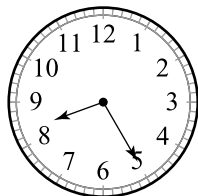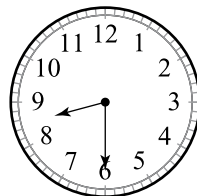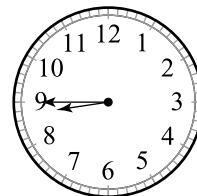$$\begin{array}{r} 5\,9 \\ \times\ 3 \\ \hline \end{array}$$

[ ]

Write your answer in the box

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2 Tim has to leave home at 8.30 to walk to school.
He looks at the clock and says, "I must leave in 15 minutes time".
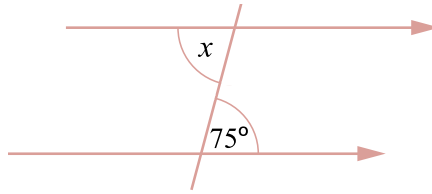
What time is showing on the clock?

Shade one bubble

○　　　○　　　○　　　○

3 What is the size of angle *x*?

- ○ 15°
- ○ 25°
- ○ 75°
- ○ 105°

75°

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4 When a box of oranges was shared equally between 6 people, each person received 10 oranges. There were no oranges left in the box.

If the same box of oranges was shared equally between 5 people, how many oranges would each person receive?

8	10	12	15
○	○	○	○

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5 What is the **mode** of the following group of numbers?

1, 1, 1, 2, 2, 5, 5, 5, 5, 13

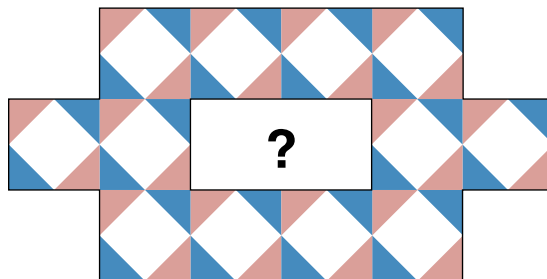| 2	3	4	5
○	○	○	○

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6 Vicki thinks that the most popular ice-cream flavour is chocolate.
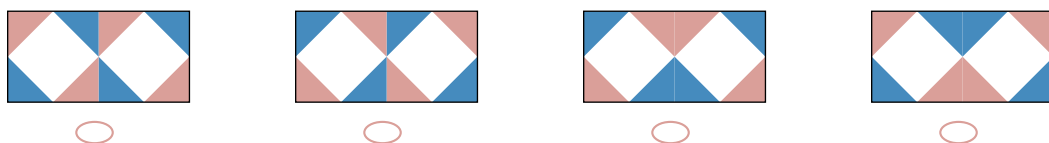
What is the best way for her to test this?

- ○ Ask family members what flavour they like.
- ○ Record the flavours available at an ice-cream shop.
- ○ Ask her friend what flavour of ice-cream she likes best.
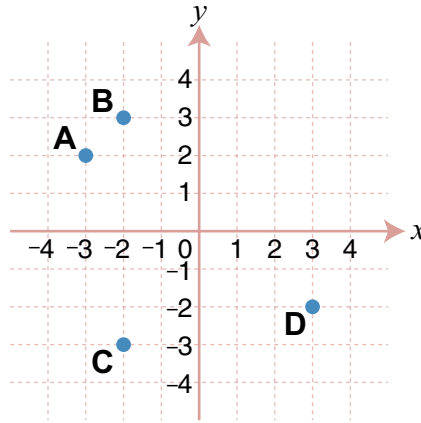- ○ Record the flavours of ice-cream sold at an ice-cream shop over 5 days.

7

The piece missing from the inside of this tessellating pattern is

○	○	○	○

8 Which point is located at (−2, 3)?

○ **A**

○ **B**

○ **C**

○ **D**

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9 $273 \div 13 =$

○ 0.21

○ 2.1
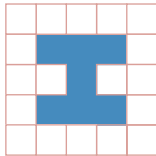
○ 21

○ 210

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10 There is a total of 40 marks for a spelling test.

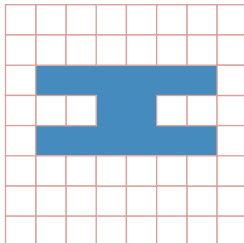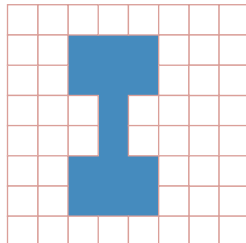Sue scored 75% for the test.

How many marks did Sue score?

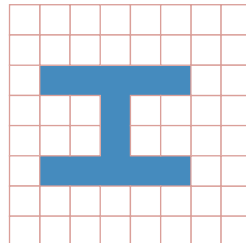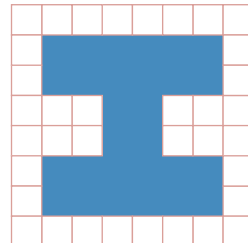[   ] marks

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11 Tina enlarged both the height and the width of the shaded shape by a factor of 2.
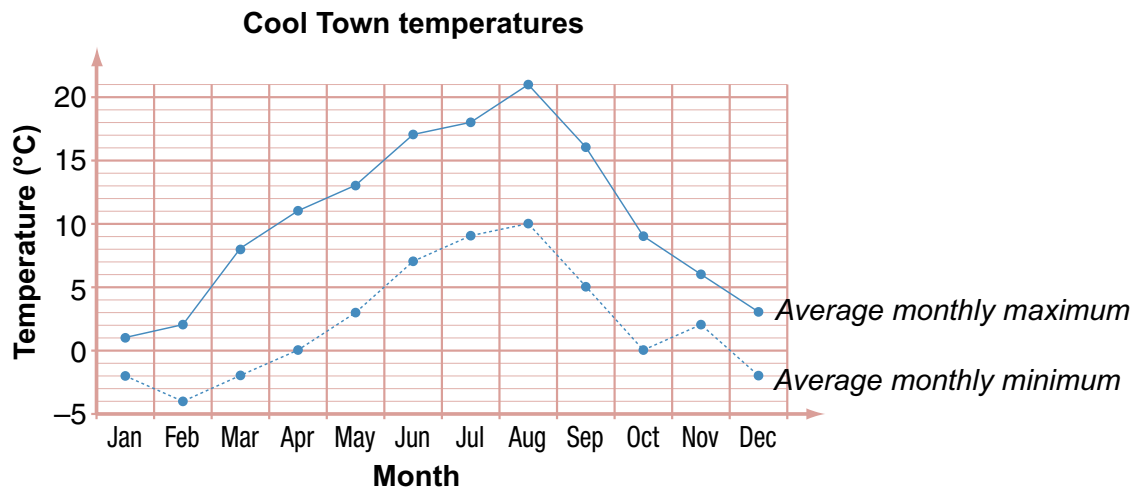
Which of the following shows the enlarged shape?

○   ○   ○   ○

12

The graph shows the average monthly maximum and the average monthly minimum temperatures for Cool Town.

Cool Town temperatures

What is the difference between the average monthly maximum and the average monthly minimum temperatures for March?

10°C	16°C	20°C	22°C
◯	◯	◯	◯

13

Solve for x.

$2x + 7 = 31$

$x =$ ☐

14

Which rule can be used to calculate y from x for all pairs in the table?

◯ $y = 2x$
◯ $y = x + 2$
◯ $y = x^2 + 1$
◯ $y = 2x + 1$

x	0	1	2	3
y	1	3	5	7

15

Which of the following letters has the **most** lines of symmetry?

A	X	N	W
◯	◯	◯	◯

16 Which set of shapes shows **all** the faces of a triangular prism?
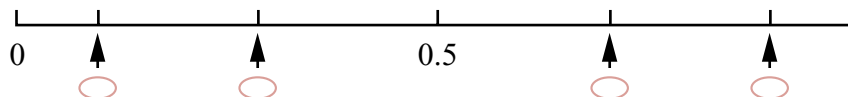
○ △ △ △ △

○ ▭ ▭ ▭ △ △

○ ▭ ▭ ▭ ▭ △ △

○ ▭ △ △ △ △
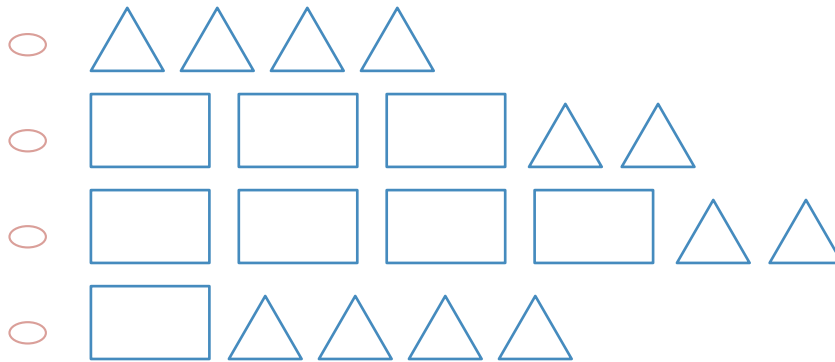
17 A box contains 27 white golf balls and 3 yellow golf balls.

One golf ball falls from the box.

Which arrow on the number line shows the probability that the golf ball that falls is white?
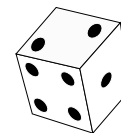
0   ↑   ↑   0.5   ↑   ↑   1

○   ○   ○   ○

18 Matthew rolls a normal six-sided die.

He will win a prize if he rolls a four or a five.

What is the probability that he will win a prize?

$\dfrac{1}{2}$ $\dfrac{1}{3}$ $\dfrac{1}{6}$ $\dfrac{1}{9}$
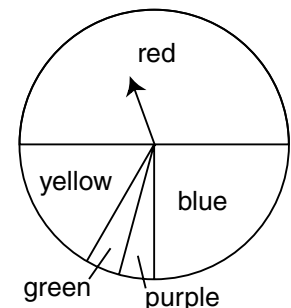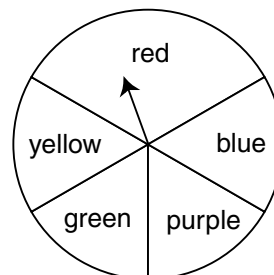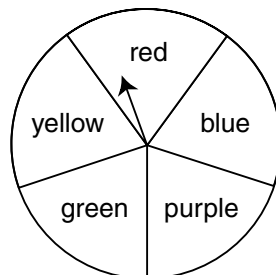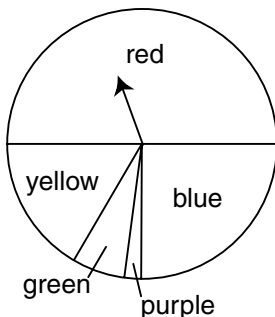
○   ○   ○   ○

19 Maria has made a spinner using five colours.

When she spins the arrow on her spinner:

- it is twice as likely to land on red as it is on blue
- it is three times as likely to land on red as it is on yellow
- it is equally as likely to land on purple as it is on green.
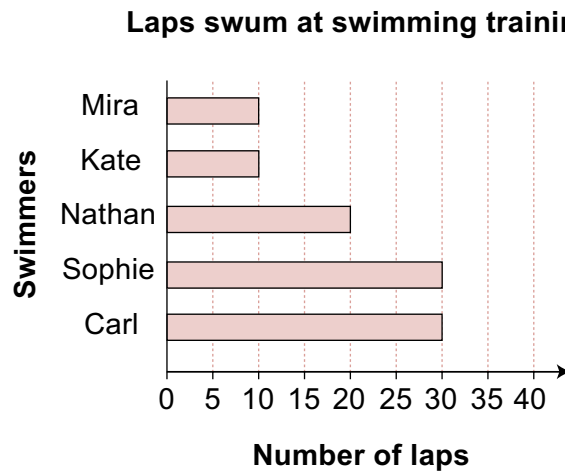
Which spinner is Maria's?

○   ○   ○   ○

20 This graph shows the number of laps swum by five swimmers at training.

Laps swum at swimming training

What was the average (mean) number of laps swum by the five swimmers?

21 Simone starts with a number.

Shade one bubble

She multiplies it by 6, then divides it by 8. The answer is 9.

What number did she start with?

6	8	9	12
◯	◯	◯	◯

22 12.5 km is equal to

- ◯   125 m.
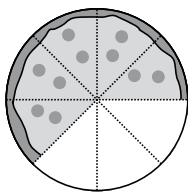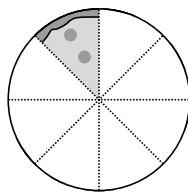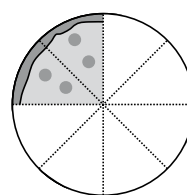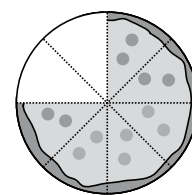- ◯   1250 m.
- ◯   12 500 m.
- ◯ 125 000 m.

23 Fiona and Dave shared a pizza.

Fiona ate $\frac{1}{8}$ of the pizza and Dave ate $\frac{1}{4}$ of the pizza.
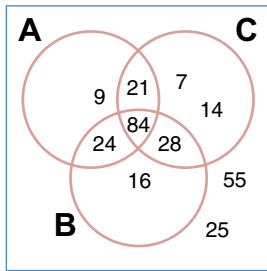
Which picture shows how much pizza was left over?

◯   ◯   ◯   ◯

24 In the Venn diagram, all the numbers in set **A** are multiples of 3 and all the numbers in set **C** are multiples of 7.

A | C
9 21 7
84 14
24 28
16 55
B 25

All the numbers in set **B** are multiples of

4	6	8	16
○	○	○	○

---

25 $2^3 \times 2^2 =$

10	24	32	36
○	○	○	○

---

26 The table shows the sugar concentration in four different drinks.

Drink	A	B	C	D
Sugar Concentration	25 g / 50 ml	12 g / 100 ml	45 g / 200 ml	15 g / 150 ml

Which drink has the highest sugar concentration?

A	B	C	D
○	○	○	○

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27 The letter below has been rotated a quarter turn anticlockwise about the point shown.

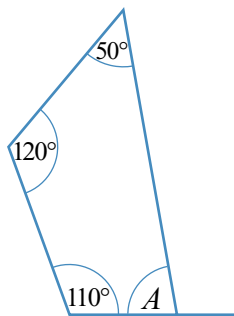What did the letter look like **before** it was rotated?

○	○	○	○

28 What is the size of angle *A*?

- ○ 50°
- ○ 80°
- ○ 100°
- ○ 110°

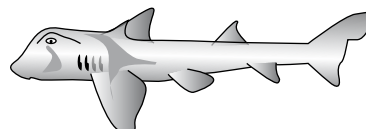**29** The ratio of the length of a newborn shark to its mother is 2:15.

If the mother shark is 150 cm long, what is the length of the newborn shark?

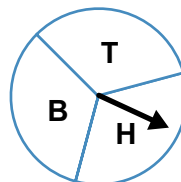| 15 cm	17 cm	20 cm	30 cm
○	○	○	○

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30 Vanessa scored 24 of the 36 goals scored by her team in a game of netball.

What fraction of the team's goals did Vanessa score?

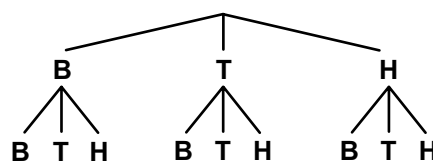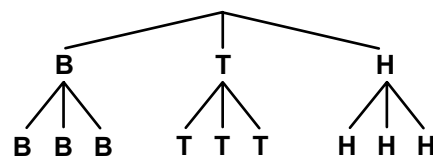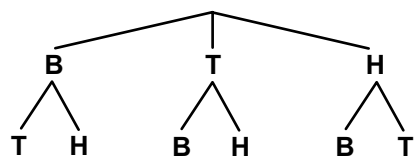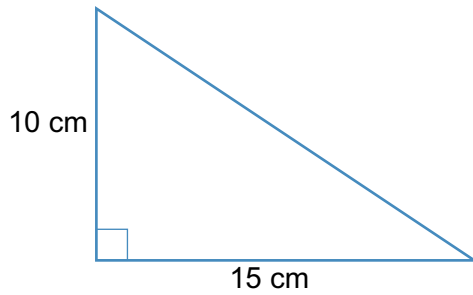| $\dfrac{3}{5}$	$\dfrac{2}{3}$	$\dfrac{5}{8}$	$\dfrac{3}{4}$
○	○	○	○

---

31 Kim spins the arrow on this spinner twice.

Which tree diagram shows all the possible outcomes for the two spins?

32

The area of this triangle is

10 cm

15 cm

- ○ 25 cm^2.
- ○ 30 cm^2.
- ○ 75 cm^2.
- ○ 150 cm^2.

33

$13 \times 7 - 3 \times 7 =$

- ○ $(13 - 3) \times 7$
- ○ $13 \times (7 - 3)$
- ○ $(13 - 7) \times 3$
- ○ $(13 - 7) \times (7 - 3)$

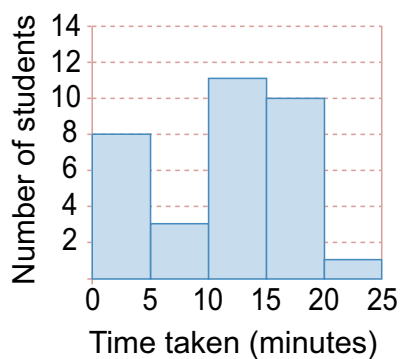---

34

30.1×0.97 is closest to

- ○ 0.003
- ○ 3
- ○ 30
- ○ 3000

35

Kerry recorded the times taken for students in her class to complete a crossword.

She made a graph to show her results.

Number of students (vertical axis: 2, 4, 6, 8, 10, 12, 14)

Time taken (minutes) (horizontal axis: 0, 5, 10, 15, 20, 25)

How many students in her class took longer than 15 minutes to complete the crossword?

| 10 | 11 | 13 | 24 |
| ○ | ○ | ○ | ○ |

36
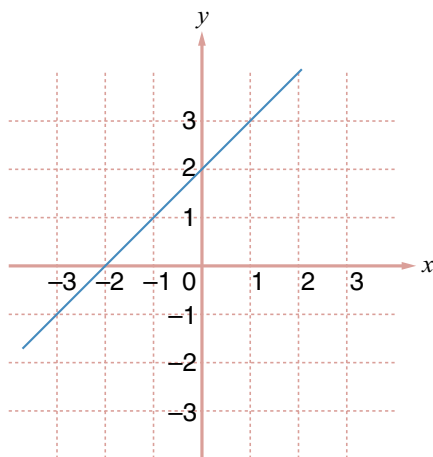
Which rule describes the graph?

- ○ $y = -x - 2$
- ○ $y = -x + 2$
- ○ $y = x - 2$
- ○ $y = x + 2$

37

The formula $S = 4LW$ is rearranged to make L the subject.

Which of the following rearrangements is correct?

$L = \dfrac{4S}{W}$ $\qquad$ $L = 4S - W$ $\qquad$ $L = S - 4W$ $\qquad$ $L = \dfrac{S}{4W}$

○ $\qquad\qquad$ ○ $\qquad\qquad$ ○ $\qquad\qquad$ ○

38

Which group of numbers contains **only** prime numbers?

- ○ 7, 27, 57
- ○ 11, 31, 71
- ○ 13, 33, 83
- ○ 19, 29, 39

39

A train is travelling at a constant speed of 150 km per hour.

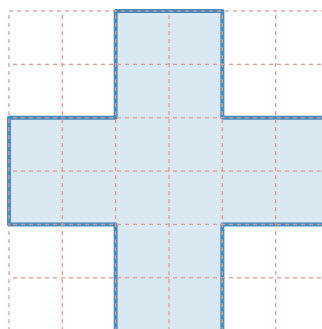How long will it take the train to travel a distance of 100 km at this speed?

- ○ 30 minutes
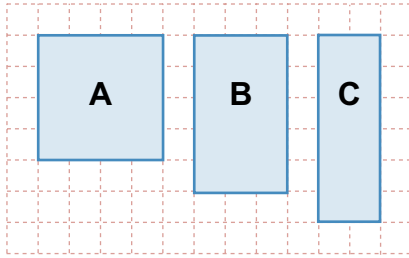- ○ 35 minutes
- ○ 40 minutes
- ○ 50 minutes

40

The area of the shaded shape is 20 cm².

What is the perimeter of the shaded shape?

- ○ 12 cm
- ○ 24 cm
- ○ 30 cm
- ○ 48 cm

41

Rectangles **A**, **B** and **C** have

- ○ different areas and different perimeters.
- ○ different areas and the same perimeter.
- ○ the same area and different perimeters.
- ○ the same area and the same perimeter.

42

$$\sqrt{\frac{144}{64}} =$$

$\dfrac{12}{8}$ $\dfrac{8}{12}$ $\dfrac{9}{4}$ $\dfrac{4}{9}$

○   ○   ○   ○

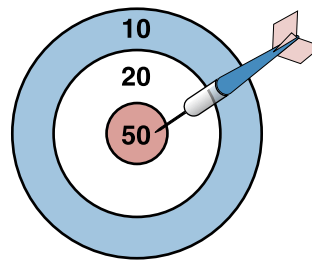**43**

The table shows the score for each section of a dartboard.

It also shows the probability of getting each score.

Score	Probability
50 points	$\frac{1}{10}$
20 points	$\frac{3}{10}$
10 points	$\frac{6}{10}$

What is the probability of scoring 50 points **twice** in two throws?

$\dfrac{1}{100}$ $\dfrac{1}{10}$ $\dfrac{2}{10}$ $\dfrac{2}{100}$

○   ○   ○   ○