VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

AIM 2006

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.
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

Year 7 Practice Questions

P1 How many days in one week?

Shade one bubble

- ⬭ 2
- ⬭ 5
- ⬭ 7
- ⬭ 10

P2

$$\begin{array}{r} 5 \\ \times \quad 3 \\ \hline \square\square \end{array}$$

Write one number in each box

P3 Write the letters **A**, **B**, **C** to order these trees from **shortest** to **tallest**.

Write one letter in each box

A **B** **C**

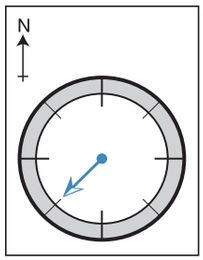
shortest □□□ **tallest**

Year 7 Mathematics – You have 45 minutes to complete this test.
Students are NOT permitted to use calculators.

1 In which direction is the compass needle pointing?

Shade one bubble

- ○ north-east
- ○ north-west
- ○ south-east
- ○ south-west



2 How much greater than 5291 is 5691?

4	40	400	4000
○	○	○	○

3 $78 \div 3 =$

26	29	39	234
○	○	○	○

4 Which clock is the same as 21:30?

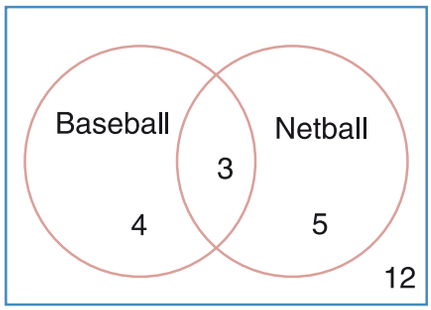



○ ○ ○ ○

5 $9.75 - 4.86 =$

- ○ 4.89
- ○ 5.61
- ○ 5.89
- ○ 14.61

6 *



Shade one bubble

From the Venn diagram above, how many people play baseball or netball, but not both?

4 ○ 5 ○ 9 ○ 12 ○

---

7 225% is equal to

$2\frac{1}{5}$ ○ $2\frac{1}{4}$ ○ $2\frac{1}{2}$ ○ $2\frac{3}{4}$ ○

8

Write one number in each box

$$\begin{array}{r} 1\ 9\ 2 \\ 2\ \ 6\ 6 \\ \hline \square\square\square \\ \hline \end{array}$$

9

Shade one bubble

A rectangle has an area of 24 cm².

Its dimensions could be

- ○ 3 cm by 9 cm.
- ○ 6 cm by 4 cm.
- ○ 8 cm by 8 cm.
- ○ 22 cm by 2 cm.

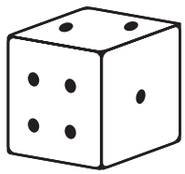
---

10 Which letter does **not** have a line of symmetry?

A ○ D ○ F ○ M ○

* *This question did not appear correctly in the printed test paper. The corrected version is provided here.*

11 A normal six-sided die is rolled once.



Shade one bubble

The chance of getting a number less than 5 is

- ⬭ likely.
- ⬭ certain.
- ⬭ unlikely.
- ⬭ impossible.

---

12 $-16 + 5 =$

-21	-11	11	21
⬭	⬭	⬭	⬭

---

13 Peter's team has six players. They need to score 78 points to win a competition.

To win the competition, the lowest mean (average) number of points needed per player is

11	12	13	14
⬭	⬭	⬭	⬭

---

14 $3.6 + 0.65 =$ ☐.☐☐

Write one number in each box

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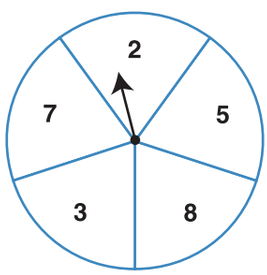
15 The arrow on the spinner is spun again and lands on a number.

Shade one bubble

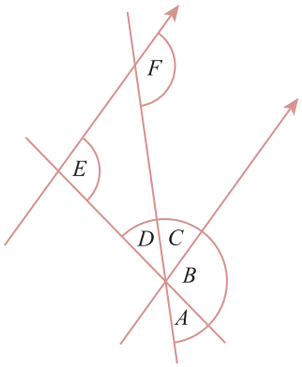
What is the chance that it lands on an even number?



$\frac{1}{5}$	$\frac{2}{5}$	$\frac{3}{5}$	$\frac{4}{5}$
⬭	⬭	⬭	⬭

Questions 16 and 17 refer to the following diagram.

Shade one bubble



16 Angle *A* is equal to angle

B	*C*	*D*	*E*
⬭	⬭	⬭	⬭

17 Angles *B* and *E* are

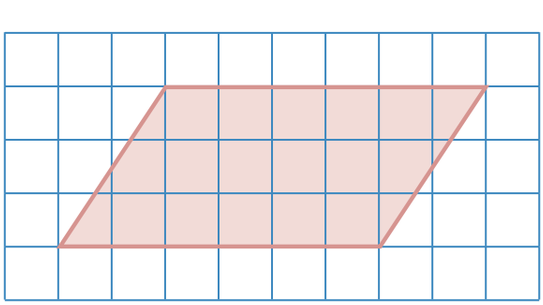
- ⬭ alternate angles.
- ⬭ corresponding angles.
- ⬭ complementary angles.
- ⬭ vertically opposite angles.

18 Water flows from a tap at a constant rate of 0.25 litres per second.

How many seconds will it take to fill an 8 litre bucket?

- ⬭ 2 seconds
- ⬭ 8 seconds
- ⬭ 16 seconds
- ⬭ 32 seconds

19 What is the area of the parallelogram?



Scale

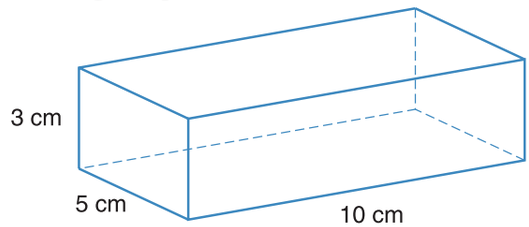
□ = 1 cm²

- ⬭ 10 cm²
- ⬭ 15 cm²
- ⬭ 18 cm²
- ⬭ 20 cm²

20 What is the volume of the rectangular prism?

Shade one bubble

- ○ 18 cm³
- ○ 72 cm³
- ○ 80 cm³
- ○ 150 cm³



21 What is the difference between 36×23 and 35×23?

1	23	35	36
○	○	○	○

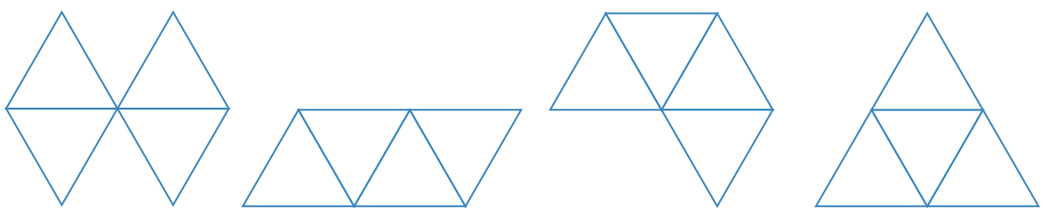
22 The lowest common multiple of 6, 8 and 9 is

18	36	48	72
○	○	○	○

23 $3(x + 2) - 3 =$

$3x + 3$	$3x - 3$	$3x + 1$	$3x - 1$
○	○	○	○

24 Which of the following nets can be used to make triangular based pyramids?



A **B** **C** **D**

- ○ **A** and **B**
- ○ **A** and **D**
- ○ **B** and **C**
- ○ **B** and **D**

25 The table below shows students who do or do not play tennis in a Year 7 class.

Shade one bubble

	Do play tennis	Do not play tennis
Male	6	7
Female	8	9

What is the probability that a male chosen at random from this class plays tennis?

$\frac{6}{7}$ ⬭ $\frac{6}{13}$ ⬭ $\frac{6}{14}$ ⬭ $\frac{6}{30}$ ⬭

---

26 Solve for x

Write one number in each box

$2x + 6 = 38$

$x =$ ☐☐

---

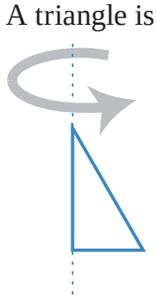
27 $\sqrt{43}$ is between

Shade one bubble

⬭ 3 and 4
⬭ 4 and 5
⬭ 5 and 6
⬭ 6 and 7

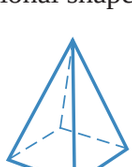
---

28 A triangle is rotated around the dotted line.



Which three-dimensional shape is formed?


⬭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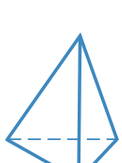
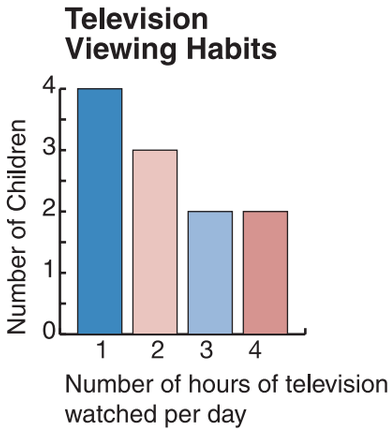

⬭


⬭

29 Children in a class were surveyed about the number of hours they watch television each day.

Write one number in each box



How many children were surveyed? ☐☐

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30 Which fraction is exactly halfway between $\frac{1}{3}$ and $\frac{1}{4}$?

Shade one bubble

$\frac{5}{24}$ ⬭ $\frac{7}{24}$ ⬭ $\frac{9}{24}$ ⬭ $\frac{11}{24}$ ⬭

---

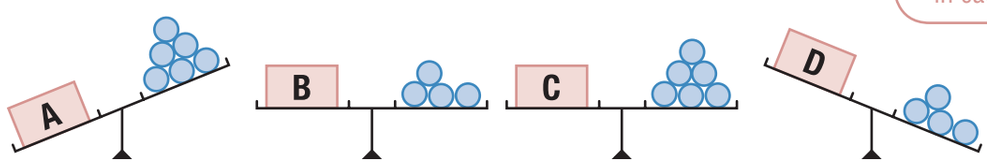
31 $2^3 + 4^2 =$

6 ⬭ 11 ⬭ 14 ⬭ 24 ⬭

---

32 Some marbles and boxes are placed on beam balances.

Write one letter in each box



Write the letters **A**, **B**, **C** and **D** to order these boxes from **lightest** to **heaviest**.

☐☐☐☐

lightest **heaviest**

33 A set of data is presented in the following stemplot.

Shade one bubble

4	0 2	where 4 | 0 = 40
5	5 7 9	
6	0 1 2 5 8 9	
7	1 4	

The median of the data is

34 ○ 40 ○ 61 ○ 74 ○

34

x	0	1	2	3	4
y	−2	1	4	7	10

What is the rule relating the values shown in the table?

$y = x - 2$ ○ $y = 2x - 1$ ○ $y = 2x + 1$ ○ $y = 3x - 2$ ○

35 4, ?, ?, 25, 36, 49, …

The missing numbers in this pattern are

○ 8, 5
○ 8, 16
○ 9, 15
○ 9, 16

36 Write the letters **A**, **B**, **C** and **D** to order the following values from **smallest** to **largest**.

Write one letter in each box

$\frac{5}{6}$ 40% 0.3 $\frac{7}{8}$

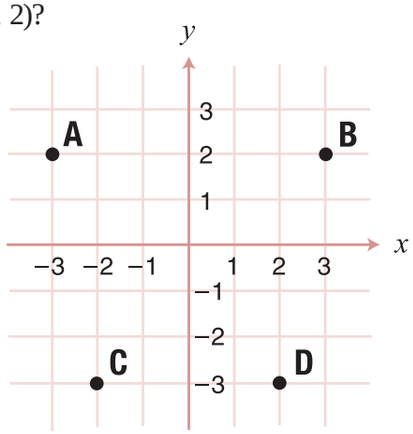
A **B** **C** **D**

smallest **largest**

37 Which point has the coordinates (−3, 2)?

Shade one bubble

- ○ A
- ○ B
- ○ C
- ○ D



38 $\frac{2}{3}$ of 54 = ☐☐

Write one number in each box

39 A timetable for trains travelling between Melbourne and Ballarat is shown below.

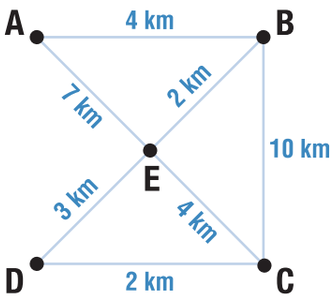
Train	A	B
Leave Melbourne	7:06 am	7:55 am
Arrive Ballarat	8:40 am	9:16 am

How much longer does train **A** take to make the journey than train **B**?

☐☐ minutes

40 The distance between several towns is shown in the network diagram below.

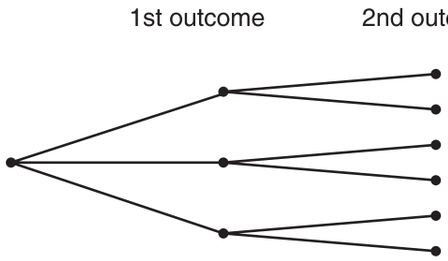
Shade one bubble



Which is the shortest route to travel from town **A** to town **C**?

- ○ ABC
- ○ AEC
- ○ ABEC
- ○ AEDC

41



Shade one bubble

The tree diagram above could be used to show the outcomes of

- ○ throwing 3 coins.
- ○ throwing a normal 6-sided die.
- ○ choosing an outfit with 3 skirts and 2 tops.
- ○ choosing an outfit with 3 skirts and 6 tops.

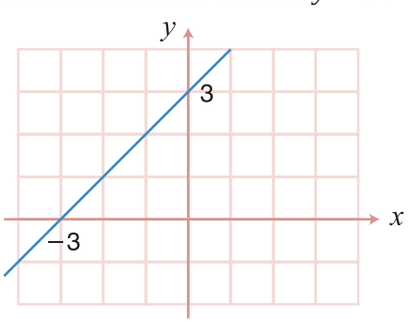
42

$1\frac{1}{2} \times \frac{3}{4} =$

$\frac{4}{8}$	$\frac{5}{8}$	$\frac{9}{8}$	$\frac{11}{8}$
○	○	○	○

43

The function with the rule $y = x + 3$ could be represented by which of the following graphs?



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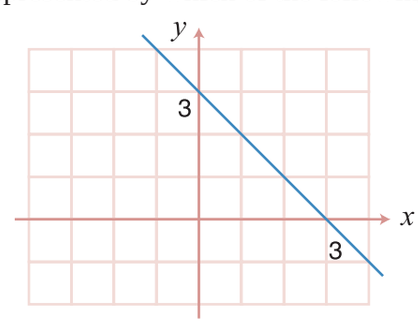

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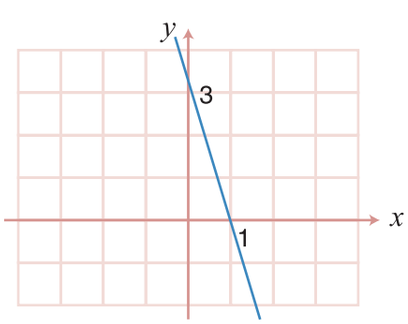

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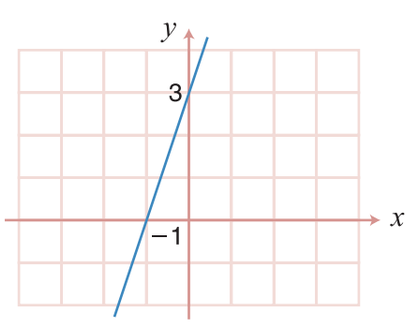

○