Year 7 NUMERACY
Non-calculator

Test 4

INSTRUCTIONS TO STUDENTS

Use a 2B pencil to show your answers.

For the multiple-choice questions, show your answer by shading the matching bubble. If you make a mistake, erase the shading and shade the correct bubble.

For the other questions, write your answer in the box provided. If you make a mistake, erase it and write the correct answer.

Year 7 NUMERACY Non-calculator *Test 4*

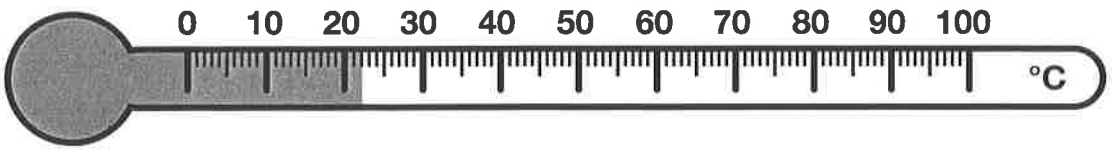
1 What is the rule to continue this fraction number pattern?

$\frac{1}{2}, \frac{1}{3}, \frac{1}{6}, \ldots$

Shade one bubble.

subtract 1	subtract $\frac{1}{6}$	add 1	add $\frac{1}{6}$
○	○	○	○

2 The thermometer shows the temperature at 9 am.



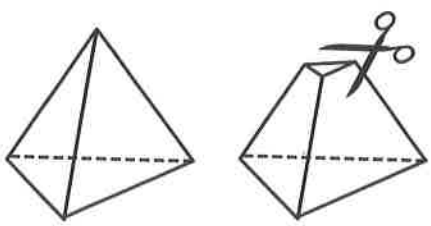
What was the temperature at 9 am?

20°C	22°C	23°C	24°C
○	○	○	○

3 Which of these expressions has the same value as $24 \div 8$?

$6 + 9 - 12$	$3 \times 4 - 8$	$3 \times 4 - 6$	$12 \div 4 + 1$
○	○	○	○

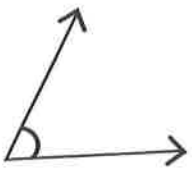
4 The top of a tetrahedron is cut off as shown.



The shape of the base of the cut-off piece is a:

triangle	square	rectangle	hexagon
○	○	○	○

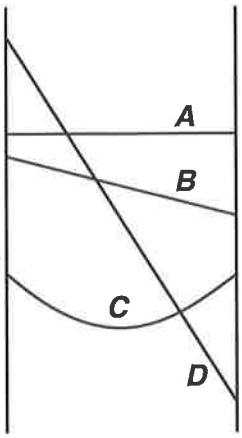
5 This angle is:



Shade one bubble.

a right angle ○ an acute angle ○ an obtuse angle ○ a reflex angle ○

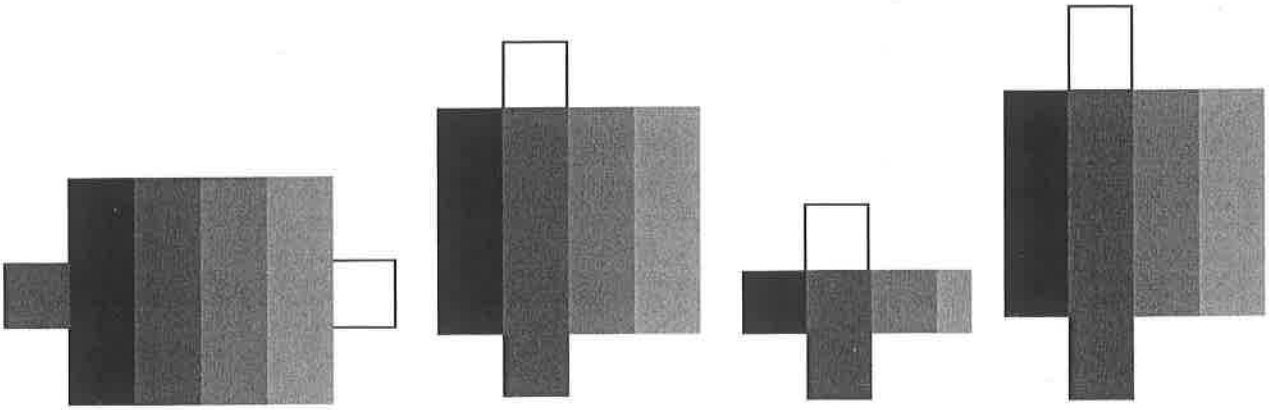
6 Which of the lines labelled *A*, *B*, *C* and *D* on the diagram is the longest?



A ○ *B* ○ *C* ○ *D* ○

7 The figure on the right is a square-based prism.

Which of the following nets can be used to make this figure?



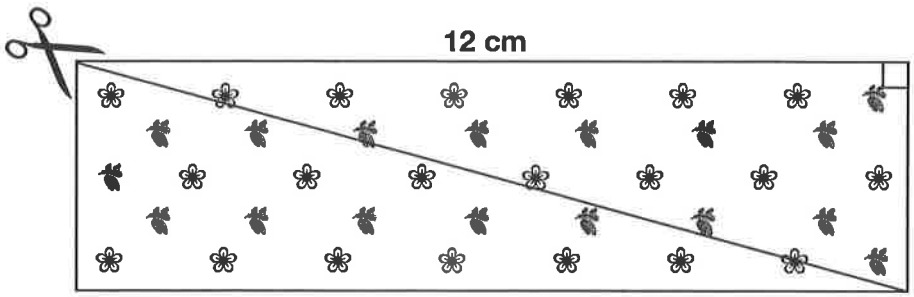
○ ○ ○ ○

8 Mary thought of a number.
She added 5, then multiplied by 2.
The answer was 24.
What was the number Mary thought of?

Write your answer in the box.

9 A rectangular piece of material, shown below, measures 12 cm long.
The material is cut in half to form 2 triangles.
The area of each triangle is 18 cm².

Shade one bubble.



not to scale

What is the length of the shorter side of each triangle?

1.5 cm ○ 3 cm ○ 4.5 cm ○ 6 cm ○

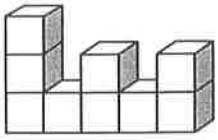
10 The Dinks yachts in the Wizza series are built in different lengths (in m).
Complete the pattern below to find the length of the next yacht in the Wizza series.

Write your answer in the box.

14 m 21 m 28 m ?

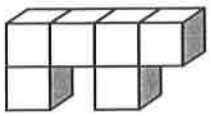
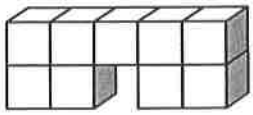
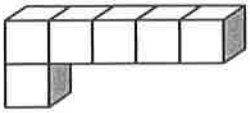
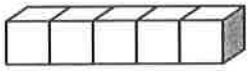
m

11 Ruth has stacked some small cubes as shown.



Which of the following can be added to form a solid rectangular prism?

Shade one bubble.

○ ○ ○ ○

12 There are 4 pink, 12 blue and 8 yellow highlighter pens in a box.

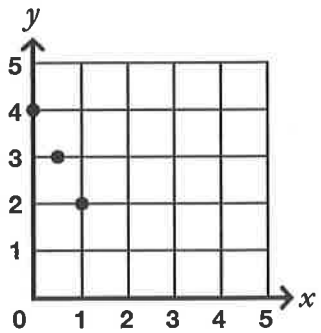
Without looking, Mairi takes one highlighter pen.

What is the chance that the highlighter pen taken is **not** yellow?

$\frac{1}{6}$ ○ $\frac{1}{3}$ ○ $\frac{1}{2}$ ○ $\frac{2}{3}$ ○

13 Janet joined the dots to make a straight line.

What are the coordinates of the point where the line meets the x axis?



(0,2) ○ (2,0) ○ (2,1) ○ (3,0) ○

14 Dean asks 20 people which one sport they like best.

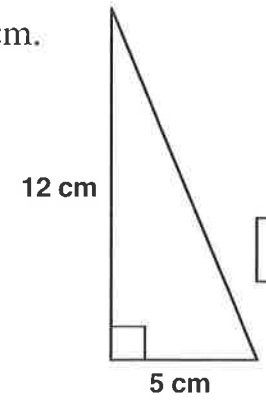
8 like football and 7 like tennis.

The other people do not like any sport.

What fraction of the 20 people do not like any sport?

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

15 This right-angled triangle has a perimeter of 30 cm.
The sides shown have lengths 5 cm and 12 cm.
What is the length of the third side?

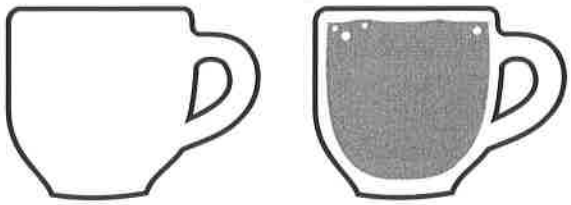


not to scale

Write your answer in the box.

cm

16 An empty cup weighs 50 g.
3 cups full of water weigh 900 g altogether.



Shade one bubble.

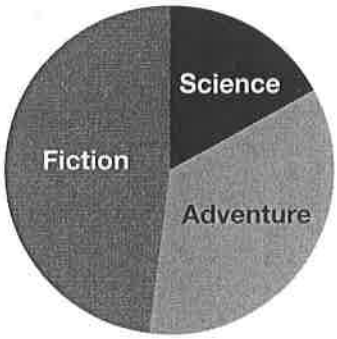
How much do 1 full cup and 1 empty cup weigh altogether?

300 g ○ 350 g ○ 400 g ○ 650 g ○

17 The pie chart shows the numbers of books of particular types read by a group of Year 7 students.

100 students are selected at random from the group and asked what type of book they read.

Number of books read



Which table is **most likely** to show the results?

Type	Number
Science	33
Adventure	33
Fiction	39

○

Type	Number
Science	35
Adventure	17
Fiction	48

○

Type	Number
Science	48
Adventure	35
Fiction	17

○

Type	Number
Science	17
Adventure	35
Fiction	48

○

18 25% of the 20 people swimming in a pool were wearing sunglasses.

20% of those wearing sunglasses were boys.

How many boys were wearing sunglasses?

Shade one bubble.

1	5	10	15
○	○	○	○

19 A sum can be written as a multiplication to get the answer.

Sum	= Multiplication	= Answer
$2+\frac{2}{1}$	$2\times\frac{2}{1}$	$\frac{4}{1}$
$3+\frac{3}{2}$	$3\times\frac{3}{2}$	$\frac{9}{2}$
$4+\frac{4}{3}$	$4\times\frac{4}{3}$	$\frac{16}{3}$
$5+\frac{5}{4}$	$5\times\frac{5}{4}$	$\frac{25}{4}$

Use the pattern to find the sum that is equal to $\frac{49}{6}$.

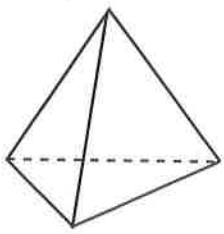
$6+\frac{7}{6}$	$6+\frac{6}{5}$	$7+\frac{7}{6}$	$7+\frac{7}{4}$
○	○	○	○

20 A 3D (three-dimensional) object has an odd number of faces.

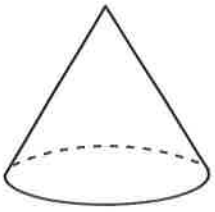
Four faces are equilateral triangles.

One face is a square.

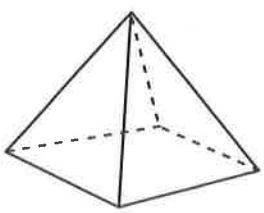
The object is a:



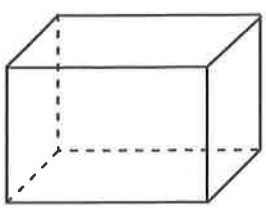
tetrahedron ○



cone ○



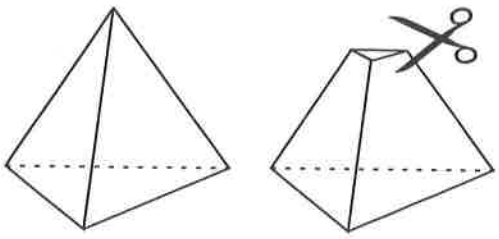
pyramid ○



rectangular prism ○

21 Mark cut one point off a tetrahedron as shown.

Write your answer in the box.



How many edges does the object now have?

22 The time in India is 4 hours and 30 minutes behind the time in Brisbane.

This means that when it is 5 pm in Brisbane it is 12:30 pm in India.

It is 12 noon in Brisbane.

What time is it in India?

Shade one bubble.

4:30 am	7:30 am	4:30 pm	8:00 pm
⬭	⬭	⬭	⬭

23 The cost of a piece of material depends on its length.

◆ stands for cost ($) and

□ stands for length (m).

The table shows the cost of different lengths.

◆	□
1	$7.50
2	$15.00
3	$22.50

What rule can be used to find the cost, □, of ◆ metres of the material?

⬭ □ = 7.5 × ◆

⬭ □ = 7.5 + ◆

⬭ □ = 22.5

⬭ □ = 15 × ◆

24 The table shows the selling price of petrol in different towns.

The selling price of petrol depends on the original cost, taxes, transport costs and profit:

Selling price = original cost + taxes + transport costs + profit

Shade one bubble.

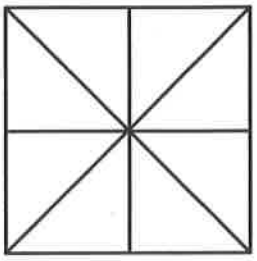
	Adelon	Byron	Campbell	Dimbla
Original cost	43.6	43.6	43.6	43.6
Taxes	42.4	42.4	42.4	42.4
Transport costs	3.2	5.2	9.8	4.4
Profit	19.2	31.2	58.8	26.4
Selling price	108.4	122.4	154.6	116.8

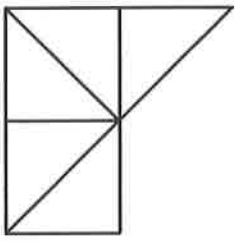
Which town pays the highest total of original cost, taxes and transport costs?

Adelon ○ Byron ○ Campbell ○ Dimbla ○

25 The square on the right has an area of 1 cm^2.

What is the area of this part of the square?

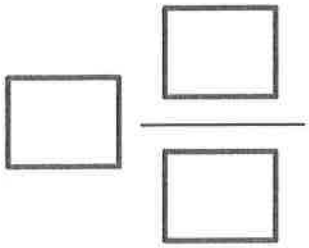




$\frac{3}{8}$ cm^2 ○ $\frac{5}{8}$ cm^2 ○ $1\frac{1}{4}$ cm^2 ○ $1\frac{5}{8}$ cm^2 ○

26 What mixed number is halfway between $1\frac{2}{5}$ and $1\frac{3}{5}$?

Write your answer in the box.



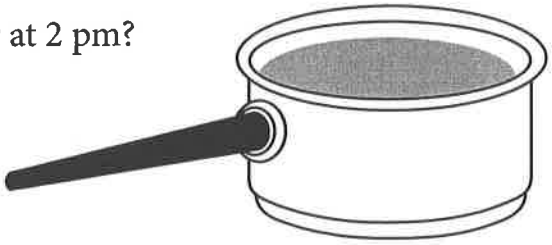
27 Mirka did an experiment on cooling water.

Her saucepan of water was at a temperature of 80°C at 10 am.

She put it in the refrigerator and found that the temperature of the water was 84°C **colder** when she took it out at 2 pm.

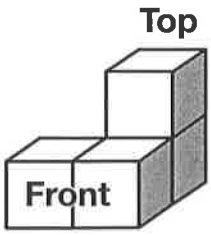
Write your answer in the box.

What was the temperature of the water at 2 pm?



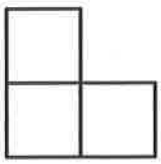
☐ °C

28 Lila made the 3D (three-dimensional) object shown, out of cubes joined face to face.

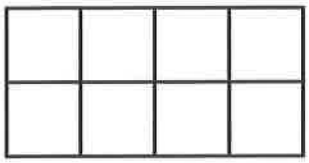


Shade one bubble.

Which of the following is the top view of her object?



○



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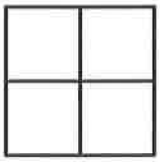

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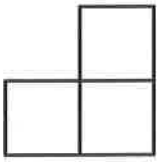
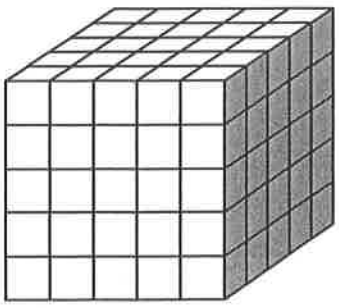


○

29



How many 1 cm cubes will fit in a cube of side length 5 cm?

5	25	75	125
○	○	○	○

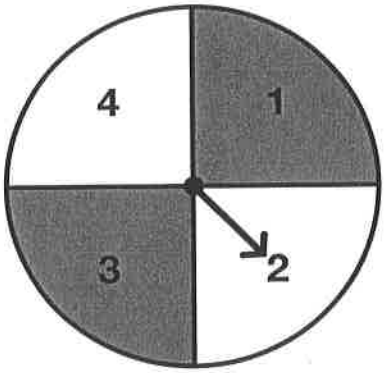
30 Which of these fractions is the smallest?

Shade one bubble.

$\frac{1}{3}$ ○ $\frac{1}{4}$ ○ $\frac{1}{5}$ ○ $\frac{1}{6}$ ○

31 Kirk spun the spinner 40 times.

Write your answer in the box.



The results were as follows:

1	2	4	3	1	1	2	1
2	4	3	4	2	2	4	1
3	4	3	2	4	3	3	2
2	4	4	2	2	4	2	1
4	4	2	3	3	1	3	4

What percentage of the spins resulted in a 2?

[ ] %

32 What is the angle between NW and SE on a compass?

[ ] °