

Year 7 NUMERACY

Non-calculator

Test 2

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.

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

4.4, 3.7, 3.0, ...

subtract 0.3

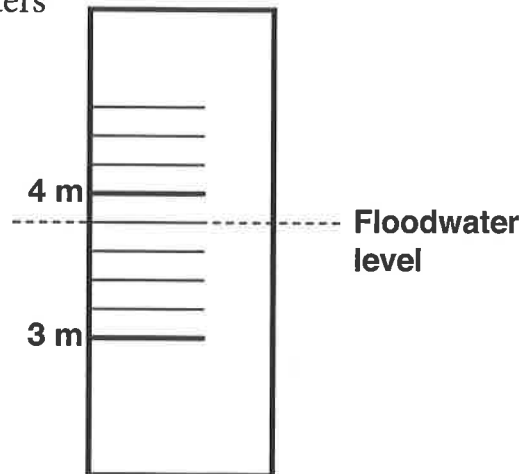
subtract 0.7

add 0.3

add 0.7



2 This diagram shows the depth of the floodwaters at midnight.



What was the depth of the floodwaters?

3.5 m

3.6 m

3.7 m

3.8 m

3 Which of the following expressions has the same value as 12×4 ?

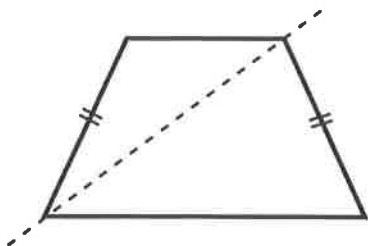
$10 + 2 + 4$

$10 \times 2 + 4$

$10 \times 4 + 8$

$10 \times 2 + 8$

4 A trapezium is cut into two parts as shown:



The shape of each part is a:

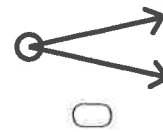
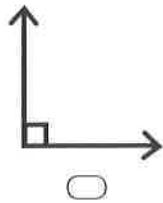
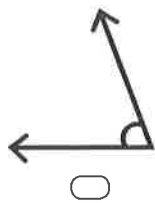
pentagon

trapezium

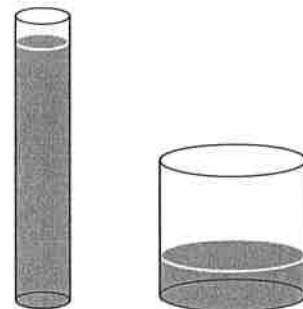
rectangle

triangle

5 Which of the following shows an obtuse angle?



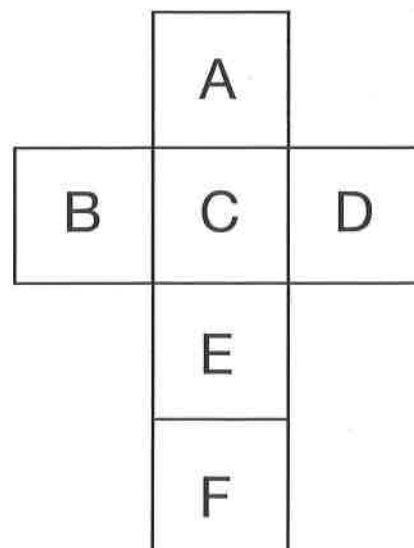
6 This diagram shows 250 mL of milk in the tall narrow glass and 250 mL of milk in the short wide glass.



Which of the following is the most likely to hold 250 mL?



7 Heinz folded this net to make a cube.



Which face is opposite face F?

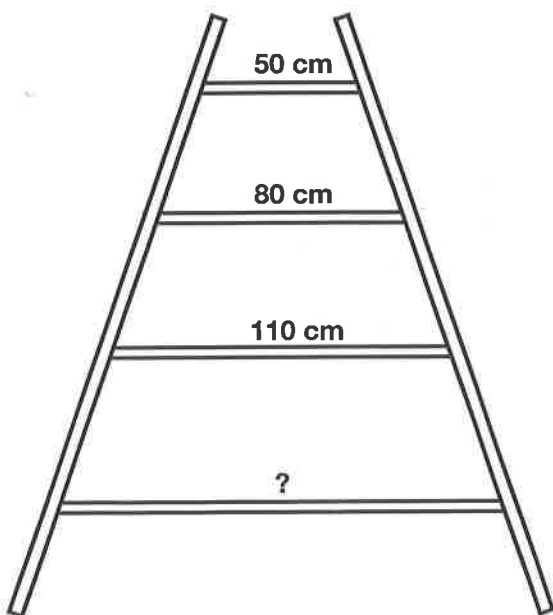
- 8 A positive number is multiplied by itself and then 5 is added.
The answer is 21.
What is the number?



- 9  **L cm**
6 cm not to scale

The perimeter of the rectangle is 36 cm.
What is the value of L ?

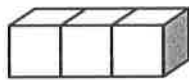
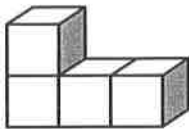
- 10 The ladder has rung lengths of 50, 80 and 110 cm as shown.



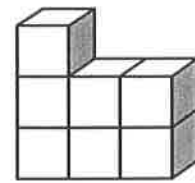
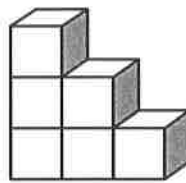
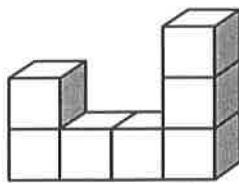
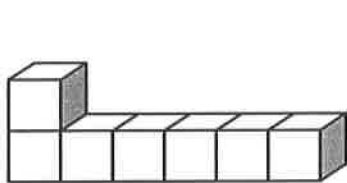
What is the length of the next rung in the pattern?

 cm

11 Alex made these two objects by gluing cubes together.



Which object below could **not** be made by joining Alex's two objects?



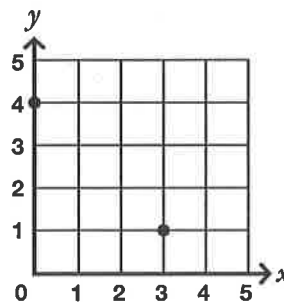
12 A choir contains 6 girls and 4 boys.

Their names are put into a hat and one is chosen, without looking, to be the conductor.

What is the chance that the conductor is a girl?



13 Kevin is drawing a square on this grid.
He has drawn two corner points as shown.
He makes (3,4) the third corner.
Where will the fourth corner be?



(0,1)



(1,0)



(0,4)



(1,1)



14 The labels on 24 of the 40 tins of tomatoes on a supermarket shelf were damaged.

The fraction of the tins with damaged labels was:

$\frac{1}{2}$



$\frac{2}{3}$



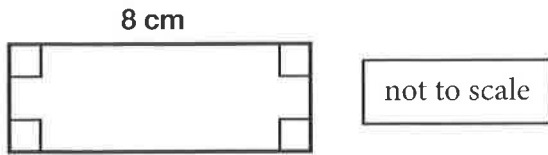
$\frac{3}{5}$



$\frac{4}{5}$



15 This rectangular card has a perimeter of 22 cm.



Each long side has length 8 cm.
What is the length of each short side?



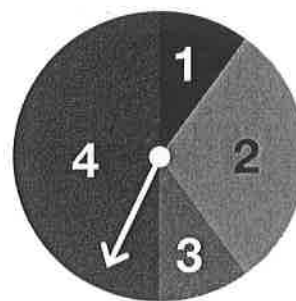
16 An empty cup weighs 50 g.
One cup full of flour weighs the same as 6 empty cups.



How many empty cups weigh the same as 2 cups full of flour and 2 empty cups?

- 4 8 12 14

17 Theo spins the arrow 100 times.



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

Sector	Number of spins	Sector	Number of spins	Sector	Number of spins	Sector	Number of spins
1	20	1	10	1	20	1	10
2	20	2	30	2	20	2	10
3	20	3	10	3	10	3	20
4	40	4	50	4	50	4	60

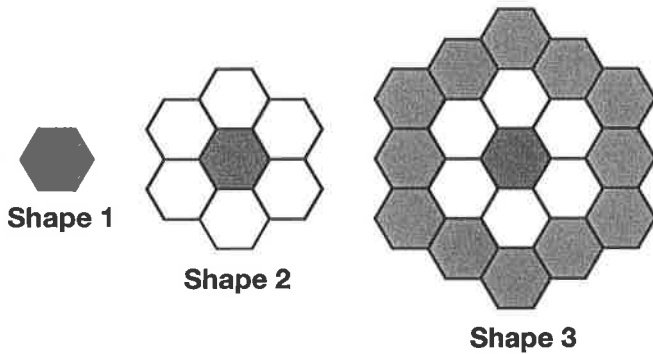
-

18 1500 copies of an advertisement were printed.
 One-fifth of the copies were put into letterboxes.
 10% of the remaining copies were put into a recycling bin.
 How many copies of the advertisement were put into the recycling bin?



- 30 60 120 300
-

19 Chris is making this pattern using identical regular hexagons.
 The first three shapes are:

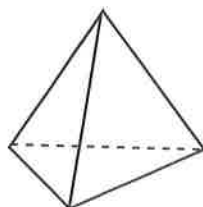


Shape	1	2	3	4
Number of hexagons	1	7	19	?

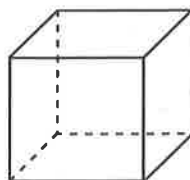
How many hexagons does Chris need for Shape 4?

- 18 31 37 49
-

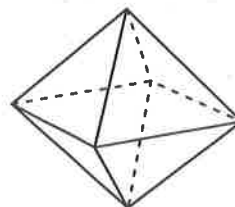
20 A 3D (three-dimensional) object has an even number of faces.
 Each face is an equilateral triangle.
 When the object is cut through horizontally, the cross-section is a square.
 The object is a:



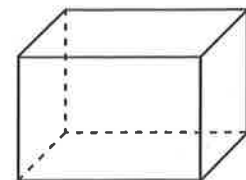
tetrahedron



cube

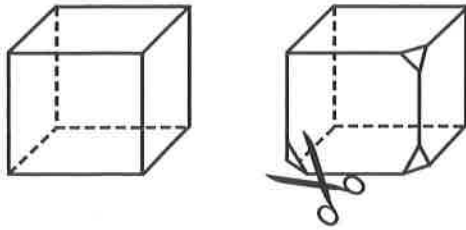


octahedron



rectangular prism

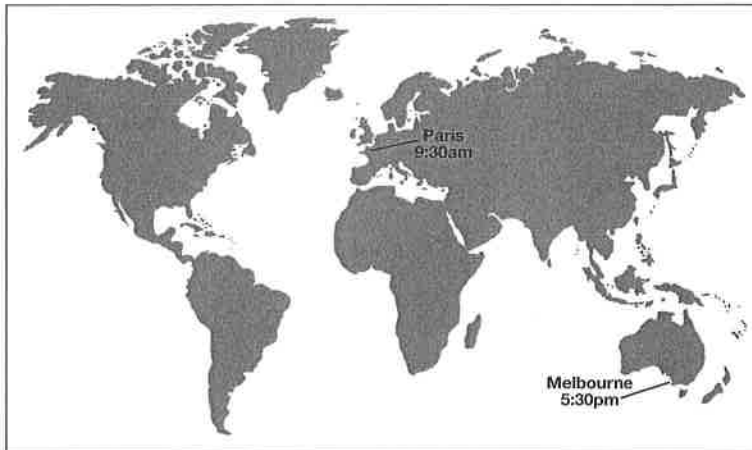
21 Felicia cut three corners off a cube as shown.



How many edges does the object now have?



22 This map shows the time difference between Paris and Melbourne on the same day.



If it is 7:30 pm on Monday in Paris, what time is it in Melbourne?

- 3:30 am Tuesday
 3:30 am Monday
 11:30 am Monday
 11:30 am Tuesday

23 \square and \blacklozenge stand for numbers.
 \square and \blacklozenge are related by a rule.

What is the rule?

- $\blacklozenge = 3 \times \square + 10$
 $\blacklozenge = 6 \times \square + 1$
 $\blacklozenge = 2 \times \square \times \square + 11$
 $\blacklozenge = 3 \times \square \times \square + 10$

\square	\blacklozenge
0	10
1	13
2	22
3	37

24 Jet aircraft travel between many Australian cities.

The table gives the shortest airline distances (in km) between some of these cities:

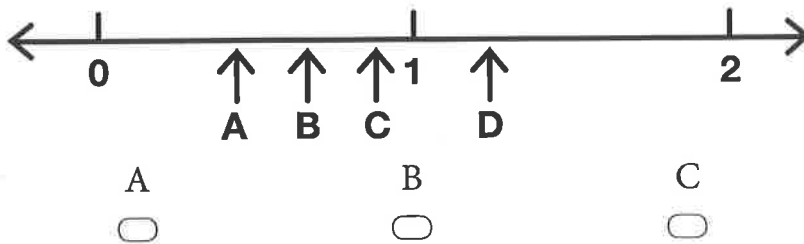


	Sydney	Adelaide	Melbourne	Canberra	Perth
Sydney		1166	706	237	3278
Adelaide	1166		655	1206	2716
Melbourne	706	655		470	3456
Canberra	237	1206	470		3741
Perth	3278	2716	3456	3741	

The distance from Adelaide to Canberra is about 5 times the distance from:

- Adelaide to Perth
- Sydney to Canberra
- Canberra to Melbourne
- Melbourne to Adelaide

25 Which arrow is pointing closest to the location of $\frac{2}{3}$ on the number line?



26 What fraction is halfway between $\frac{3}{7}$ and $\frac{4}{7}$?



27 The temperature of the refrigerator is 3°C .

The temperature of the freezer is 18°C colder than the temperature of the refrigerator.

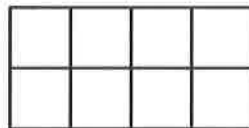
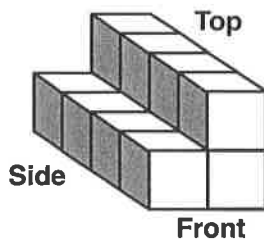
What is the temperature of the freezer?

$^{\circ}\text{C}$

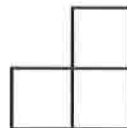


28 Michaela makes the 3D (three-dimensional) object below out of cubes joined face to face.

The side view and front view are also shown.



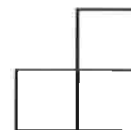
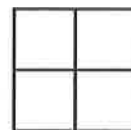
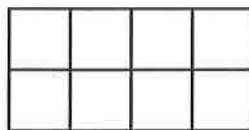
Side view



Front view



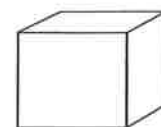
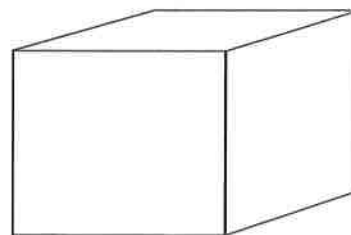
Which of the following is the top view?



29 The dimensions of a large box are twice the dimensions of a small box.

Both boxes are rectangular prisms.

The volume of the small box is 8 cm^3 .



not to scale

What is the volume of the large box?

16 cm^3

32 cm^3

64 cm^3

128 cm^3

30 Which set of fractions is ordered from smallest to largest?

- $\frac{3}{4}, \frac{5}{6}, \frac{1}{3}, \frac{3}{5}$
- $\frac{3}{5}, \frac{3}{4}, \frac{5}{6}, \frac{1}{3}$
- $\frac{1}{3}, \frac{3}{5}, \frac{3}{4}, \frac{5}{6}$
- $\frac{5}{6}, \frac{1}{3}, \frac{3}{5}, \frac{3}{4}$



31 Marie rolled two dice 25 times.

Each time she added the numbers on the top faces.

Her results are shown in the table.

Sum of numbers on top faces	Number of rolls
2	1
3	2
4	2
5	3
6	3
7	5
8	4
9	2
10	2
11	1
12	0
Total	25



What percentage of the rolls resulted in a sum of 7?

 %

32 This clock shows 4 o'clock.

The size of the **smaller** angle between the minute and hour hands is about:

 °
