acara AUSTRALIAN CURRICULUM, ASSESSMENT AND REPORTING AUTHORITY

NATIONAL ASSESSMENT PROGRAM
LITERACY AND NUMERACY

YEAR
7
2011

NUMERACY
CALCULATOR ALLOWED

SESSION 1

0:40

Time available for students to complete test: 40 minutes

Use 2B or HB pencil **only**

Do not write on this page.

PRACTICE QUESTIONS

P1

50, 100, 150, 200, 250, **?**

Shade one bubble.

Which number comes next in this sequence?

251	260	300	350
⬭	⬭	⬭	⬭

P2

Write your answer in the box.

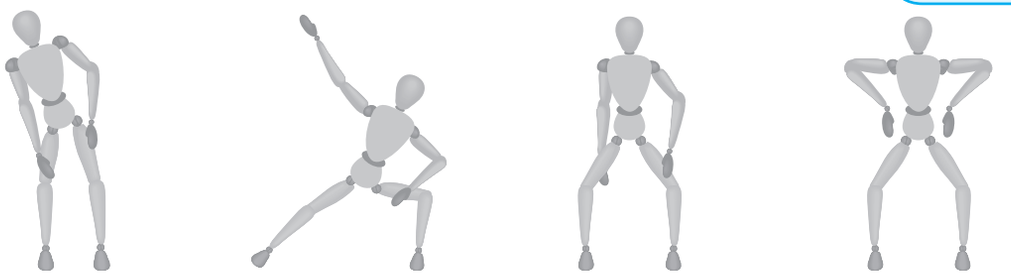
Dave had $5.75.
He spent $1 and then spent 75 cents.

How much money does he have left?

$ ☐

1 Which of these dance positions has one line of symmetry?

Shade one bubble.



2 The diagram shows the number of nuclear power stations in four countries.

France	⚛ ⚛ ⚛
Japan	⚛ ⚛ ⚛
Russia	⚛ ⚛
Germany	⚛

Key
⚛ = 20 nuclear power stations

Which country has about 50 nuclear power stations?

France ○ Japan ○ Russia ○ Germany ○

3 Ann saves $15 each month.

How many months will it take Ann to save a total of $300?

4 months ○ 8 months ○ 20 months ○ 25 months ○

4 Rose walked 5185 steps and Liv walked 3147 steps in a day.

How many more steps did Rose walk than Liv?

8332 ○ 2048 ○ 2042 ○ 2038 ○

5 Emma has $1.25 in coins.

What is the **least** number of coins she can have?

Shade one bubble.

2 ⬭ 3 ⬭ 4 ⬭ 5 ⬭

6 What number makes this number sentence correct?

$1.6 \times \boxed{?} = 4.48$

2.8 ⬭ 2.88 ⬭ 6.08 ⬭ 7.168 ⬭

7 Peter bought some packs of plastic forks and spoons for a party.

20 Plastic Forks

$1.50 per pack

15 Plastic Spoons

$1.25 per pack

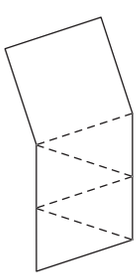
This is how he worked out the cost:

$(6 \times \$1.50) + (4 \times \$1.25) = \$14$

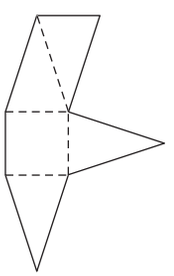
How many packs of plastic **spoons** did Peter buy?

4 ⬭ 5 ⬭ 6 ⬭ 9 ⬭

8 Which of these drawings is a net of a pyramid?



⬭



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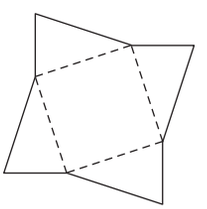
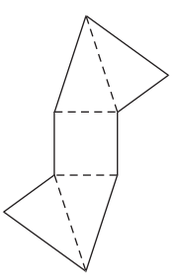


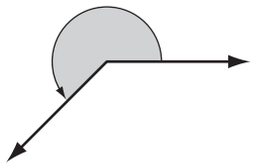
⬭

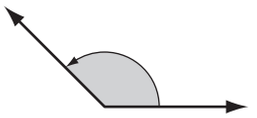


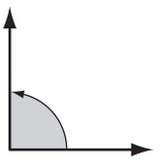
⬭

9 Which angle is closest in size to 140° ?

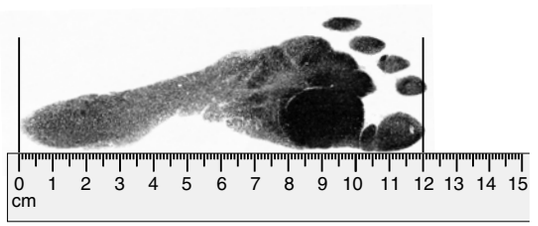
Shade one bubble.

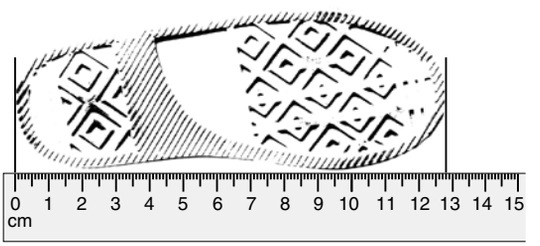






10 Trudie measured her footprint.
She then measured her shoe print.





How much longer is her shoe than her foot?

0.08 cm 0.8 mm 8 mm 8 cm

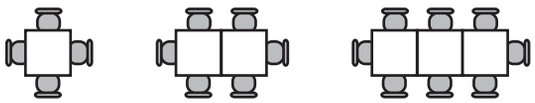
11 Emily made a triangle using wire.
It had a perimeter of 20 cm.

Which of these could be the side lengths of her triangle?

- 6 cm, 6 cm, 8 cm
- 5 cm, 5 cm, 10 cm
- 4 cm, 4 cm, 12 cm
- 3 cm, 3 cm, 14 cm

12 Miriam owns a restaurant.
She sets up rows of tables and chairs as shown.

Shade one bubble.

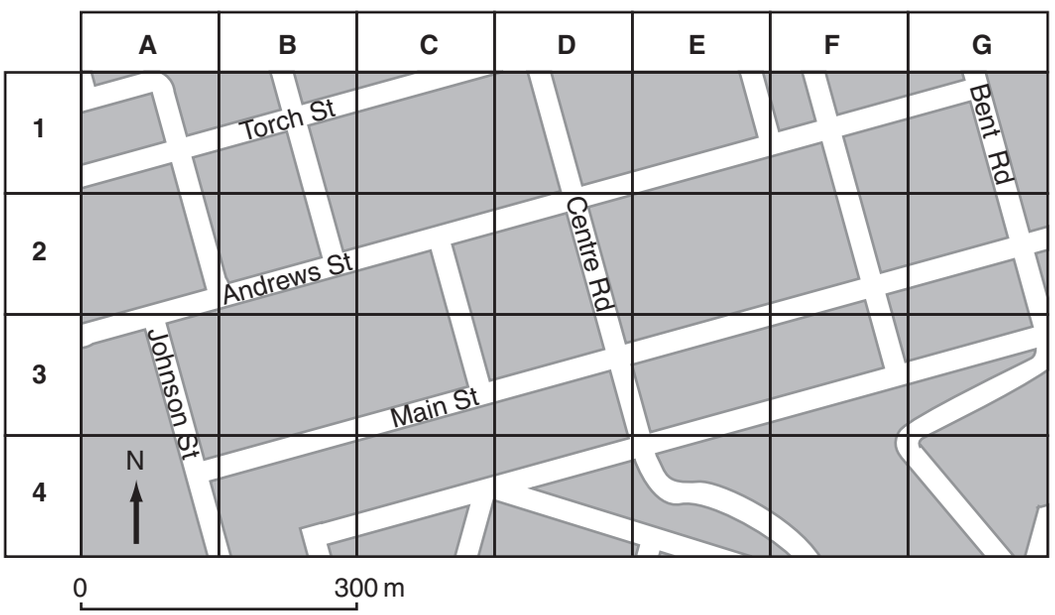


4 6 8

Which of these rules can be used to work out how many chairs will be needed on any row of tables?

- ⬭ *number of tables* × 4
- ⬭ *number of tables* ÷ 2 – 2
- ⬭ *number of tables* × 2 + 2
- ⬭ *number of tables* × 2 – 2

13 This is a map of where Jane and Kate live.



Jane is on the corner of Main St and Johnson St (map reference A4).
She walks 850 metres along Main St to Kate's house.

What is the map reference of Kate's house?

D3 ⬭ E3 ⬭ F1 ⬭ G2 ⬭

14 Which of these numbers is a prime number?

Shade one bubble.

9	29	39	49
⬭	⬭	⬭	⬭

15

Internet use in Australia				
Year	2003	2004	2005	2006
Number of people (millions)	12.21	13.27	13.60	14.28

Between 2003 and 2006, internet use in Australia increased by about

- ⬭ 0.5 million people.
- ⬭ 1 million people.
- ⬭ 2 million people.
- ⬭ 2.5 million people.

16 ♦ and ☺ represent different numbers.

♦ + ☺ = 25 ♦ – ☺ = 5

What is ☺ equal to?

5	10	15	20
⬭	⬭	⬭	⬭

17 Alex thinks of a regular 2D shape.
It has only 3 pairs of parallel sides.

The shape could be

- ⬭ a parallelogram.
- ⬭ a triangle.
- ⬭ an octagon.
- ⬭ a hexagon.

18 The table shows the distances of four past marathons.

Which marathon had the longest distance?

Shade one bubble.

	Year of marathon	Distance (km)
⬭	1906	41.86
⬭	1912	40.2
⬭	1920	42.75
⬭	1924	42.195

19 Dustin collects football cards.
He sells some of his cards. The prices are listed here.

$3, $5, $5, $8, $8, $10, $10, $10, $40

What is their mean (average) price?

$8	$9	$10	$11
⬭	⬭	⬭	⬭

20 John is three years younger than Mary.

Which statement is correct?

- ⬭ *Mary's age* + *John's age* = 3
- ⬭ *Mary's age* = *John's age* + 3
- ⬭ *John's age* – *Mary's age* = 3
- ⬭ *John's age* = *Mary's age* + 3

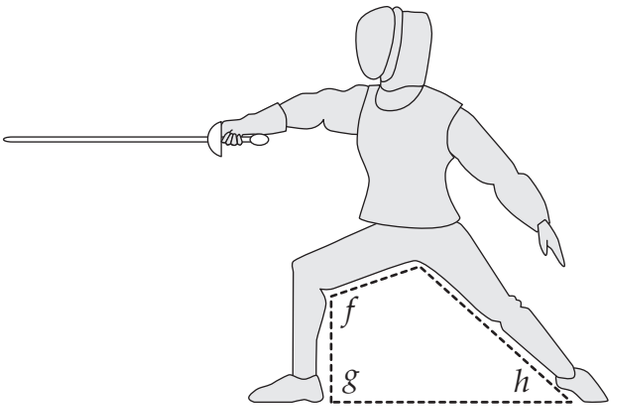
21 Beth was given 6 minutes to complete a puzzle.
When she finished, there were 250 seconds left on the timer.

How long did Beth take to complete the puzzle?

- ⬭ 1 minute 50 seconds
- ⬭ 2 minutes 50 seconds
- ⬭ 3 minutes 50 seconds
- ⬭ 4 minutes 50 seconds

22 This picture shows a position used in the sport of fencing.

Shade one bubble.



Which list shows the three angles f, g, h in **increasing** order of size?

h, g, f ⬭ h, f, g ⬭ g, f, h ⬭ f, g, h ⬭

23 This table shows the percentage of $1 million prize money awarded as first, second and third prizes.

Write your answer in the box.

	Percentage of $1 million
First prize	50%
Second prize	30%
Third prize	20%

2000 people equally shared third prize.

How much did **each** third-prize winner get?

$ ☐

24 The school librarian made this table of the number of books borrowed on one day.

Number of books borrowed per student	1	2	3	4	5
Number of students	20	16	8	6	3

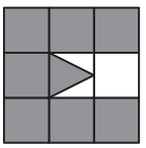
What was the total number of books borrowed that day?

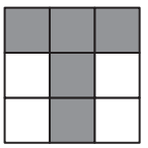
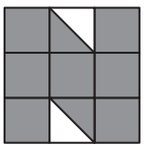
☐

25 Tam cuts letters from squares of metal.

Which of these letters uses exactly $\frac{5}{6}$ of the metal square?

Shade one bubble.



26 A dance school teaches Hip Hop and Salsa.
One-quarter of all the students learn Salsa.
The rest of the students learn Hip Hop. No students learn both.

Write your answer in the box.

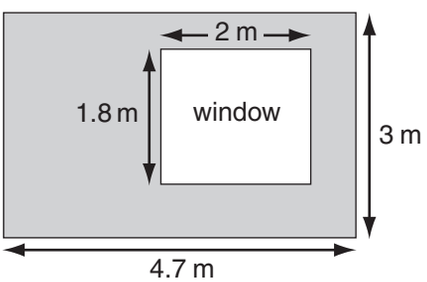
	Hip Hop only	Salsa only
Boys	95	24
Girls	?	26

How many girls learn Hip Hop? ____

27 Donna painted one rectangular wall of her bedroom.
The diagram shows the wall and window.
The window was **not** painted.

What area did Donna paint?

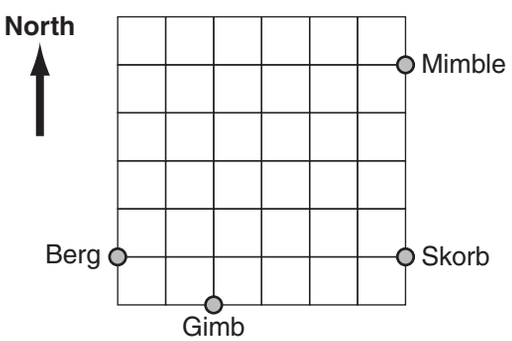
____ square metres



28 On this map the town of Berg is 90 km from Skorb.
The town of Nunton is not shown on the map.
It is due north of Gimb and due west of Mimble.

What is the distance from Gimb to Nunton?

____ km



29 Kyle draws a quadrilateral with a perimeter of 30 centimetres.

Write your answer in the box.

What is the maximum possible area of Kyle's shape?

square centimetres

30 The table shows the height of a burning candle at different times.

Time (minutes)	0	5	10	15	20	25	30
Height (cm)	15	14.25	13.5	12.75	12	11.25	10.5

The candle burns until its height is 3 cm.

How many minutes does it take the candle to burn to a height of 3 cm?

minutes

31 The lights in Ali's office are on for 40 hours per week, every week of the year.

Ali replaces a light globe after 8000 hours of use.

After how long, to the nearest year, will Ali need to replace the light globe?

years

32 A plane was flying due north. It made these three course changes:

1. 15° right turn
2. 50° left turn
3. a final right turn until it was heading due east.

How many degrees did it turn the third time?

degrees

STOP – END OF TEST

Do not turn this page.

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NATIONAL ASSESSMENT PROGRAM
LITERACY AND NUMERACY

YEAR
7
2011

NUMERACY
NON-CALCULATOR

SESSION 2

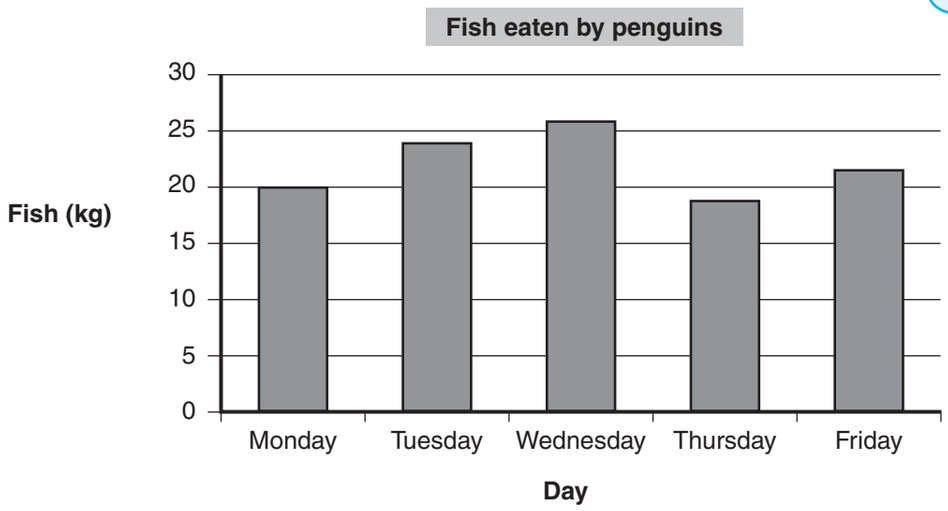
0:40

Time available for students to complete test: 40 minutes

Use 2B or HB pencil **only**

1 This graph shows the mass of fish eaten by the penguins at a zoo.

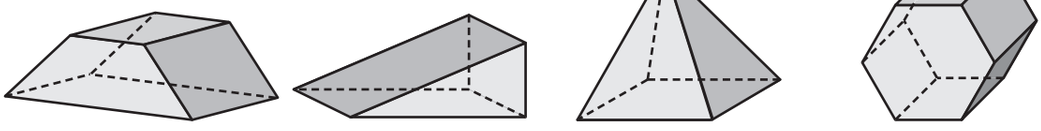
Shade one bubble.



On which day did the penguins eat 24 kg of fish?

Tuesday ○ Wednesday ○ Thursday ○ Friday ○

2 Which of these 3D objects has exactly 6 faces?



○ ○ ○ ○

3 Nick multiplied 38 by 76 on his calculator.
The answer shown was 2888.
Nick then pressed four more buttons.
The answer shown was now 38.

Which four buttons could Nick have pressed to get 38?

○ + 7 6 =

○ − 7 6 =

○ x 7 6 =

○ ÷ 7 6 =

4 The table shows the times of 3 of the first 4 swimmers in a race.

Shade one bubble.

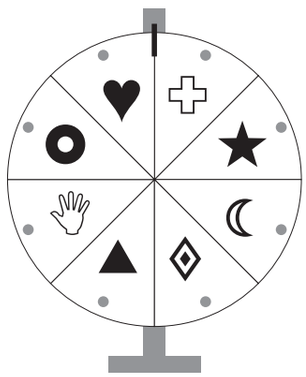
1st place	25.38 seconds
2nd place	25.83 seconds
3rd place	**?**
4th place	26.29 seconds

The time of the swimmer in 3rd place could be

- ⬭ 25.78 seconds.
- ⬭ 25.91 seconds.
- ⬭ 26.31 seconds.
- ⬭ 26.92 seconds.

5 This wheel is spun once to decide which player goes first in a game.
Each player has an equal chance.

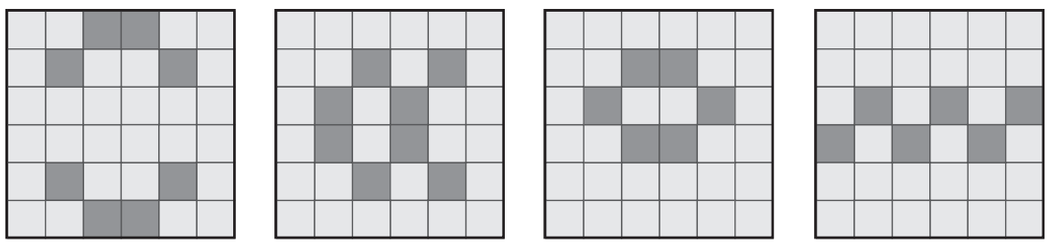
What is the chance that the wheel stops on the star ★ ?



- ⬭ 7 chances in 8
- ⬭ 8 chances in 8
- ⬭ 1 chance in 7
- ⬭ 1 chance in 8

6 Yasmine tiled the tops of four tables.

Which table top has **two** lines of symmetry?



⬭ ⬭ ⬭ ⬭

7

Shade one bubble.

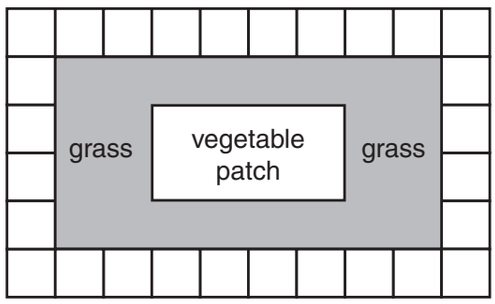
Tim had $32 to spend while on holiday.
He spent exactly the same amount each day.
At the end of the holiday he had no money left.

Which of these could be the amount he spent each day?

$6	$5	$4	$3
⬭	⬭	⬭	⬭

8

This is a diagram of a garden.

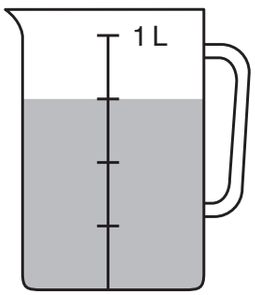


= 1 square metre

What is the area of the vegetable patch?

- ⬭ 4 square metres
- ⬭ 8 square metres
- ⬭ 16 square metres
- ⬭ 32 square metres

9

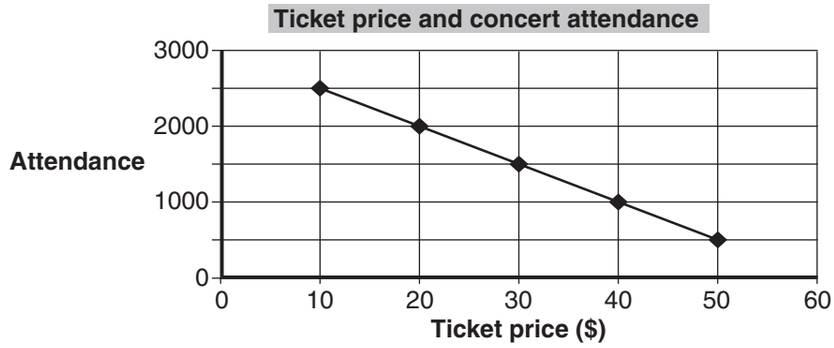


How much **more** water is needed to fill the jug to 1 L?

200 mL	250 mL	300 mL	750 mL
⬭	⬭	⬭	⬭

10 Jack drew this graph to show how attendance at concerts is related to ticket price.

Shade one bubble.



Which statement best describes the graph?

- ⬭ As the ticket price goes up, attendance goes down.
- ⬭ As the ticket price goes up, attendance goes up.
- ⬭ As the ticket price goes down, attendance goes down.
- ⬭ As the ticket price goes down, attendance stays the same.

11 Bruce is cooking dinner.
The table shows the cooking times for his dinner.

	Cooking time
Chicken	1 hour 40 minutes
Potatoes	20 minutes
Peas	10 minutes

Bruce starts cooking the chicken at 5:10 pm.
He wants everything to finish cooking at the same time.

At what time should Bruce start cooking the peas?

6:20 pm	6:30 pm	6:40 pm	6:50 pm
⬭	⬭	⬭	⬭

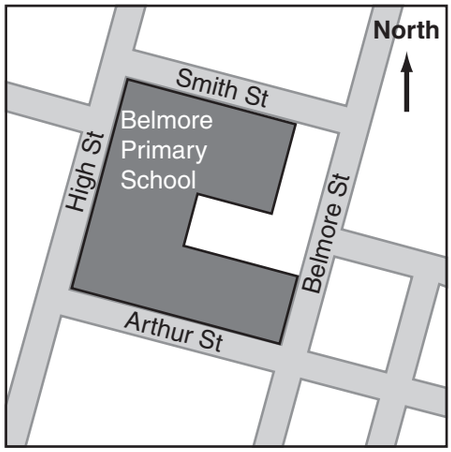
12 At a bakery, buns cost $0.50 each or 5 for $2.

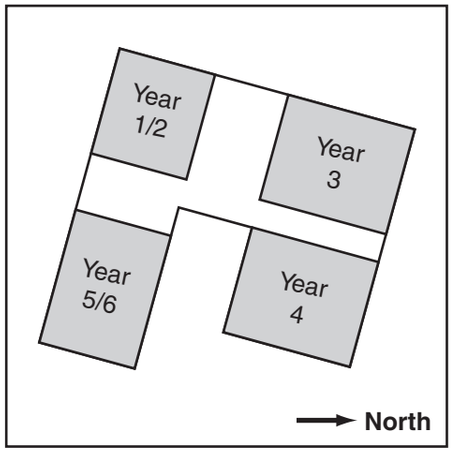
Shade one bubble.

What is the lowest cost of 12 buns?

$4.00 $4.50 $5.00 $6.00

13 A school's website shows these two plans of the school.





Which classroom is by the corner of High Street and Smith Street?

Year 1/2 Year 3 Year 4 Year 5/6

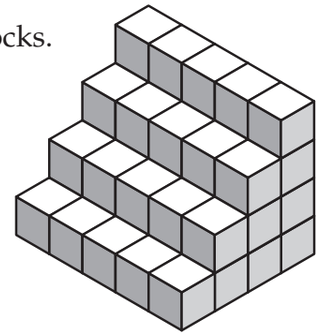
14 Robert recorded this data about some members of his family.

Name	Gender	Height (cm)	Age (years)	Shoe size
Ted	Male	148	10	6
Rania	Female	167	14	9
Luke	Male	175	52	10
Judy	Female	159	54	$8\frac{1}{2}$

How did Robert order his data?

by gender by height by age by shoe size

15 Clive made this staircase by stacking blocks.
There are no gaps between blocks.

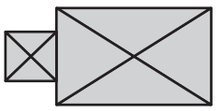


Shade one bubble.

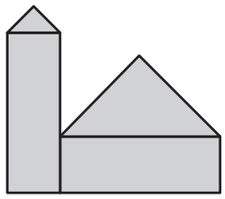
How many blocks in the staircase are **not** shown at all?

26	24	15	10
⬭	⬭	⬭	⬭

16 The top view and front view of a building are shown.

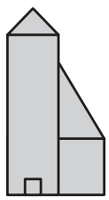


Top view

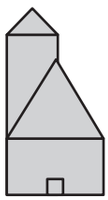


Front view

Which could be the side view of this building?



⬭



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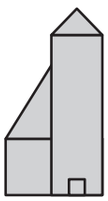
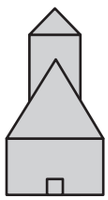
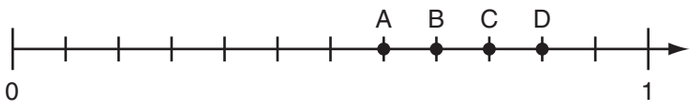


⬭



⬭

17 Which position is closest to $\frac{2}{3}$ on this number line?

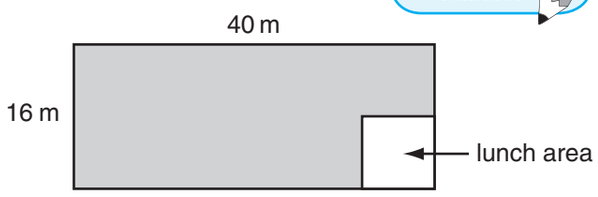


A	B	C	D
⬭	⬭	⬭	⬭

18 This diagram shows a rectangular school yard.
The shaded area is the playground.
The lunch area is a square of side length 8 m.

Which of these expressions gives the area of the playground?

Shade one bubble.



- ⬭ $(40 \times 16) - (8 \times 8)$
- ⬭ $(32 \times 8) + (8 \times 8)$
- ⬭ $(40 + 16) - (8 + 8)$
- ⬭ $(40 \times 16) + (8 \times 8)$

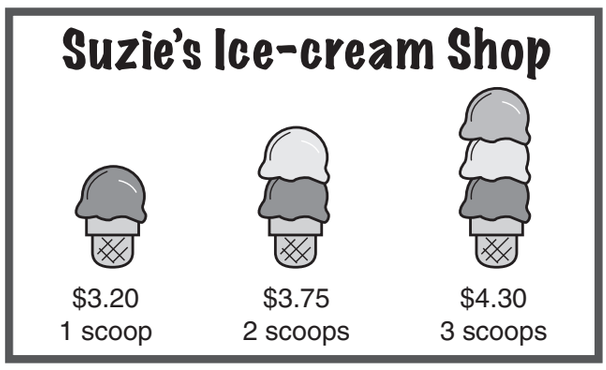
19 A gecko is about 8 cm long.
A frilled-neck lizard is about 6 times as long as a gecko.

The difference between the length of a frilled-neck lizard and of a gecko is about

- ⬭ 2 cm
- ⬭ 14 cm
- ⬭ 40 cm
- ⬭ 48 cm

20 This picture shows the prices of some ice-creams at Suzie's Ice-cream Shop.

Write your answer in the box.



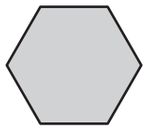
Each extra scoop of ice-cream costs the same amount of money.

How much will one ice-cream with **5 scoops** cost?

$ ☐

21 This regular hexagon has been made by putting together 3 identical smaller shapes.

Shade one bubble.



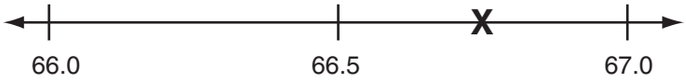
Which of these could be that smaller shape?

22 Jade buys a 500 gram bag of beads at a market.
Each bead has a mass of 0.48 grams.

Which of these is the best estimate for the number of beads in the 500 gram bag?

100 250 1000 2500

23



Which number is at **X** on this number line?

65.65 66.50 66.55 66.75

24 Lucy's watch works correctly but is not showing the correct time.
At 7:30 am Lucy's watch showed the time as 7:35 am.
Lucy should have been at school by 8:50 am.
When she arrived at school her watch showed the time as 9:10 am.

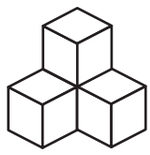
Write your answer in the box.

How many minutes late to school was Lucy?

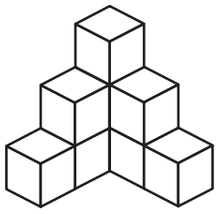
_____ minutes

25 Finn joins cubes to make these models that look like steps.

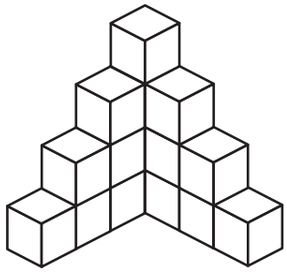
Write your answer in the box.



2-step model
(4 cubes)



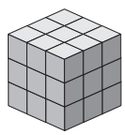
3-step model
(9 cubes)



4-step model
(16 cubes)

How many cubes would Finn need for a **6-step** model?

26 Kim made this large cube using 27 small cubes.
The large cube has 6 faces.
Kim removed some of the small cubes.
The remaining object had 12 faces.



What was the **smallest** number of small cubes Kim could have removed?

27 $23 \times (98 - 17)$ has the same value as

Shade one bubble.

- ⬭ $(23 \times 98) - 17$
- ⬭ $(23 \times 98) - (17 \times 98)$
- ⬭ $23 \times (98 - 23 \times 17)$
- ⬭ $(23 \times 98) - (23 \times 17)$

28 Which of these fractions has the greatest value?

$\frac{3}{4}$	$\frac{19}{24}$	$\frac{5}{8}$	$\frac{13}{16}$
⬭	⬭	⬭	⬭

29 Three friends were making cupcakes for a party.
Josh made 10 more cakes than Alice.
Alice made 8 more cakes than Tom.
In total they made 62 cakes.

How many cakes did **Tom** make?

Write your answer in the box.

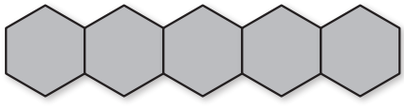
30 The sum of the opposite faces of a standard six-sided dice is always 7.

Hannah rolls three dice.
The sum of the top faces is 11.

What is the sum of the three opposite faces?

31 $4.95 \div 4.5 =$

32 Sanjay has some tiles that are in the shape of regular hexagons.
The perimeter of each tile is 12 cm.
He arranges them in a row with pairs of edges touching as shown.



He keeps adding tiles in the same way until he has a row with a perimeter of 100 cm.

How many tiles are in Sanjay's row?

STOP – END OF TEST