

Example Mathematics Items

Appendix **B**





Example Mathematics Items Grade 4

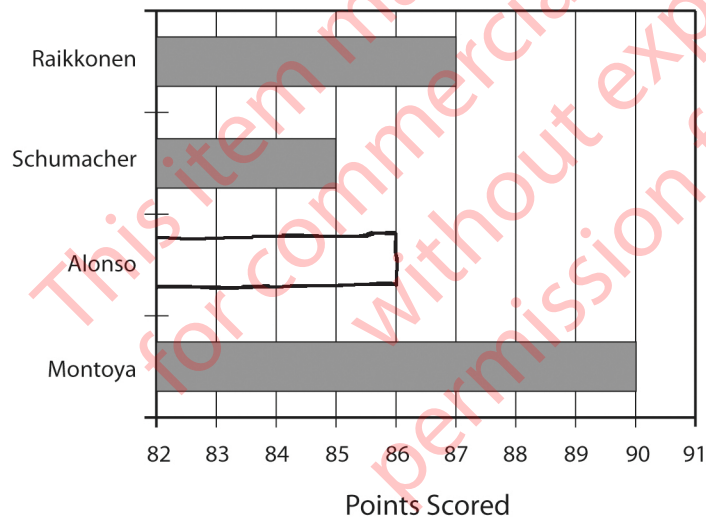
1

A shelf is 240 cm long. Chris is putting boxes on the shelf. Each box takes up 20 cm of shelf space. Which of these number sentences shows how many boxes Chris can fit on the shelf? The number of boxes is shown as ▲.

- (A) $240 - 20 = \blacktriangle$
- (B) $240 \div 20 = \blacktriangle$
- (C) $240 + 20 = \blacktriangle$
- (D) $240 \times 20 = \blacktriangle$

2

This graph shows the points obtained by 4 drivers in the car racing championship. Montoya is in first place. Alonso is in third place. Draw a bar which shows how many points Alonso has scored.



3

Al wanted to find how much his cat weighed. He weighed himself and noted that the scale read 57 kg. He then stepped on the scale holding his cat and found that it read 62 kg.





What was the weight of the cat in kilograms?

Answer: 5 kilograms

4

The graph shows the number of apples John picked each day.

each  stands for 10 apples

Monday	
Tuesday	
Wednesday	
Thursday	

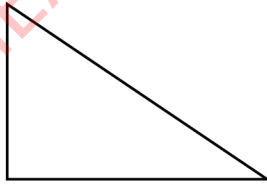
On which day did John pick 5 apples?

- (A) Monday
- (B) Tuesday
- (C) Wednesday
- (D) Thursday

5

Two shapes are shown below. Describe one way they are the same and one way they are different.

Shape P



Shape Q



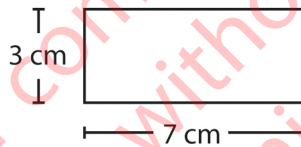
A. Same

Shapes P and Q both are triangles.

B. Different

Shape P has a right angle but shape Q does not.

6

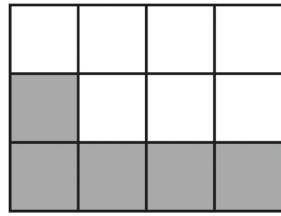


What is the perimeter of this rectangle?

- (A) 7 cm
- (B) 10 cm
- (C) 20 cm
- (D) 21 cm

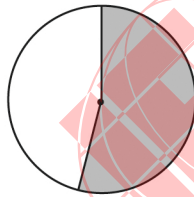
Example Mathematics Items Grade 8

1

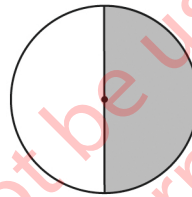


Which circle has approximately the same fraction of its area shaded as the rectangle above?

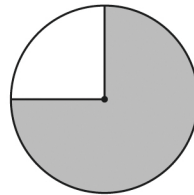
(A)



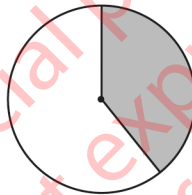
(B)



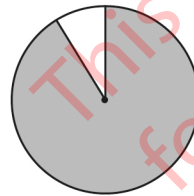
(C)



(D)



(E)



2

Joe knows that a pen costs 1 zed more than a pencil.
His friend bought 2 pens and 3 pencils for 17 zeds.
How many zeds will Joe need to buy 1 pen and 2 pencils?

Show your work.

Pencil: x zeds

Pen: $y = x + 1$ zeds

$$2y + 3x = 17$$

$$2(x + 1) + 3x = 17$$

$$2x + 2 + 3x = 17 \quad / -2$$

$$5x = 15 \quad / :5$$

$$x = 3$$

One pencil costs 3 zeds.

$$y = x + 1$$

$$y = 3 + 1 = 4$$

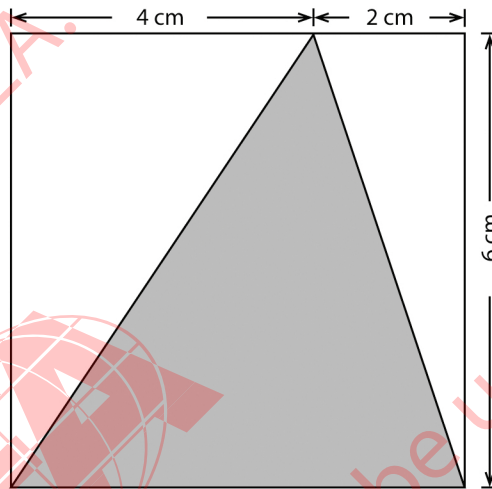
One pen costs 4 zeds.

$$x + 2y = 3 + 2 \cdot 4 = 3 + 8 = 11$$

One pen and two pencils
cost 11 zeds.

3

The figure shows a shaded triangle inside a square.



What is the area of the shaded triangle?

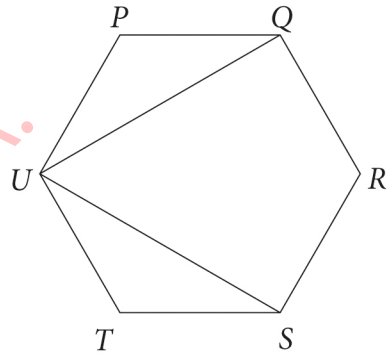
Answer: 18

4

Which of these is equal to $2(x + y) - (2x - y)$?

- (A) $3y$
- (B) y
- (C) $4x + 3y$
- (D) $4x + 2y$

5



$PQRSTU$ is a regular hexagon. What is the measure of the angle QUS ?

- (A) 30°
- (B) 60°
- (C) 90°
- (D) 120°

6

There are 36 passengers on a bus. The ratio of children to adults on the bus is 5 to 4. How many children are on the bus?

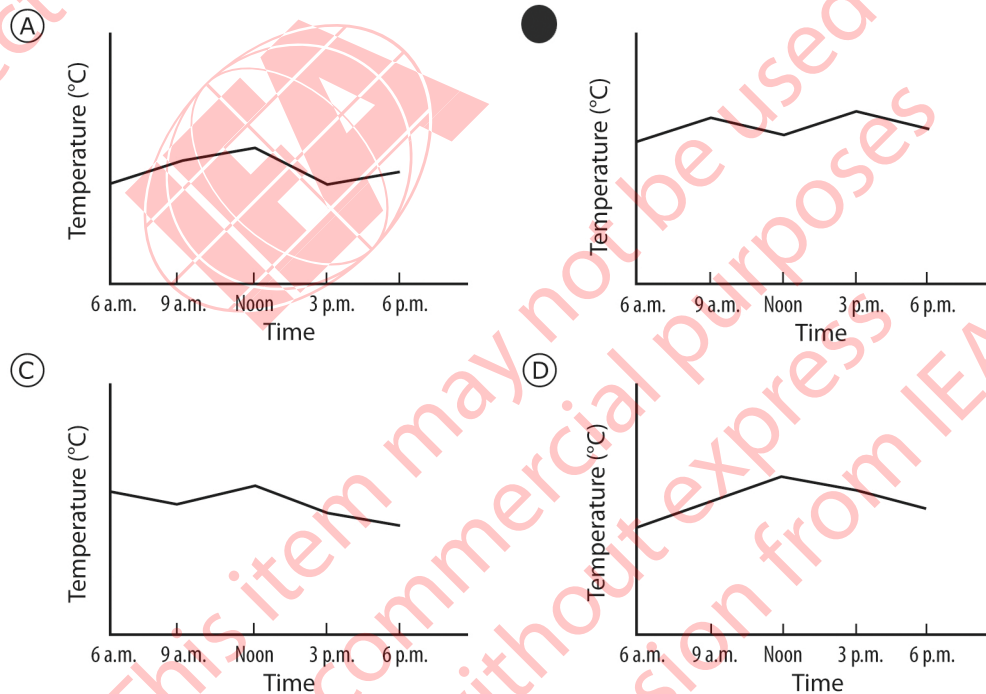
Answer: 20

7

The table shows the temperatures at various times on a certain day.

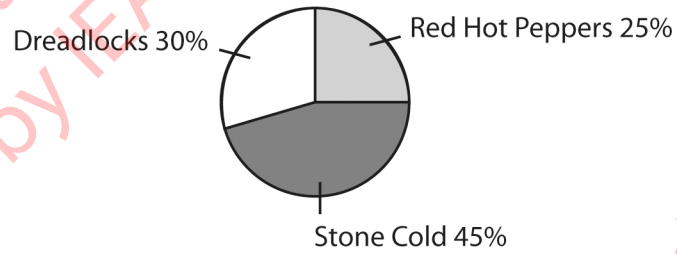
Time	6 a.m.	9 a.m.	Noon	3 p.m.	6 p.m.
Temperature °C	12	17	14	18	15

A graph, without a temperature scale, is drawn. Of the following, which could be the graph that shows the information given in the table?



The results of a survey of 200 students are shown in the pie chart.

Popularity of Rock Bands



Make a bar chart showing the number of students in each category in the pie chart.

