1 A box contains 9 teacups and four times as many saucers.

How many saucers are there in the box?

A 9 saucers

B 12 saucers

C 13 saucers

D 18 saucers

E 36 saucers

2 Lisa needed exactly 35 paper plates for her art project.

However, paper plates are only sold in packs of eight.

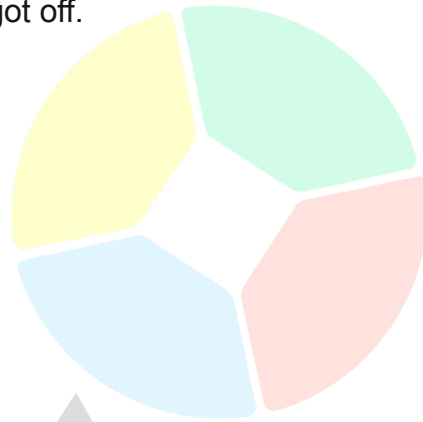How many packs of paper plates does Lisa need to buy to have enough paper plates for her art project?

A 2 packs

B 3 packs

C 4 packs

D 5 packs

E 6 packs

3 There are 50 people on the bus.

At the next stop, $\frac{3}{10}$ of the people on the bus got off.

How many people are left on the bus?
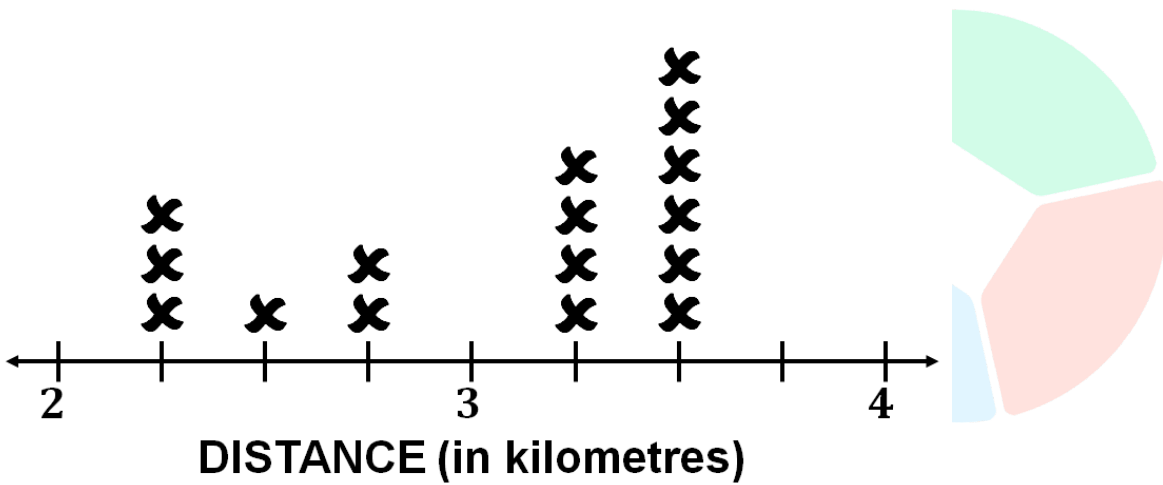
A 25

B 30

C 35

D 40

E 45

4 Robert has a rectangular vegetable garden.

The length of his garden is 5 metres and the width is 2 metres less than its length.

Find the perimeter of Robert's rectangular vegetable garden.

A 10 metres

B 11 metres

C 14 metres

D 16 metres

E 22 metres

5   The line plot below shows the distances students lived from the school.

DISTANCE (in kilometres)

What is the difference in distance between the students who lived furthest from the school and students who lived closest to the school?

A $1\frac{1}{4}$ kilometres

B $1\frac{2}{4}$ kilometres

C $1\frac{3}{4}$ kilometres

D $2\frac{1}{4}$ kilometres

E $3\frac{2}{4}$ kilometres

6   Jane went to the school supply store and bought 5 notebooks.

If she paid a total of $15, what is the price of each notebook?

A $3.00

B $2.00

C $2.50

D $3.50

E $4.00

7   Last night, Peter spent $1\frac{1}{2}$ hours doing his math homework and another $1\frac{1}{4}$ hours doing his history paper.
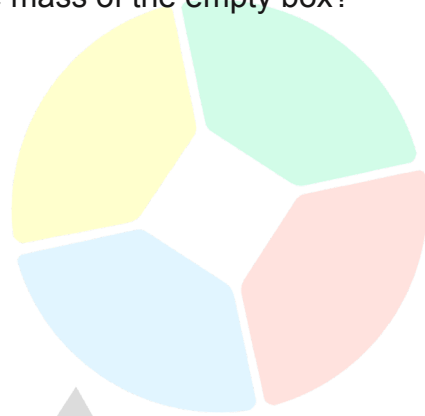
How much total time did Peter spend last night doing his math homework and history paper?

A $2\frac{1}{4}$ hours

B $2\frac{1}{2}$ hours

C $2\frac{3}{4}$ hours

D $3\frac{1}{4}$ hours

E $3\frac{3}{4}$ hours

8   A cardboard box containing 5 balls has a total mass of 28 grams.

If each ball has a mass of 5 grams, what is the mass of the empty box?

A   2 grams

B   3 grams

C   6 grams

D   8 grams

E   It cannot be determined.

9   Patrick drew a shape that has exactly two pairs of parallel sides and four right angles.

Which of the following could be the shape that Patrick draw?

A   Right triangle

B   Equilateral triangle

C   Rectangle

D   Rhombus

E   Trapezoid

10 It's Diane's turn to participate and write the answer on the whiteboard. She needs to fill the blanks in a sequence of numbers her teacher wrote earlier. The sequence is 3, 6, 9, 12, ___, 18, ___, 24, ___. What are the correct numbers?

A 15, 21, 27

B 13, 15, 17

C 16, 17, 18

D 23,51, 12

11 Out of the 1.6 billion inhabitants of Planet Mimas, 1 out of 25 million has a distinct mutation.

How many of the inhabitants of Planet Mimas have a distinct mutation?

A 64

B 640

C 6 400

D 64 000

E 640 000

12 Joshua can tie 500 knots in 6 hours and Arthur can tie 1 000 knots in 8 hours.

At these rates, how many more knots can Arthur tie in 9 hours than Joshua can tie in 9 hours?

A 375 knots

B 498 knots

C 999 knots

D   1 125 knots

E   1 500 knots

13   A container, whose inside dimensions measure 40 centimetres by 2 centimetres by 60 centimetres, is half-full of water.

If the water in the container is poured into a right rectangular glass with a 40-centimetre by 40-centimetre base, how many centimetres high will the water in the glass reach?

A   12 centimetres

B   15 centimetres

C   18 centimetres

D   20 centimetres

E   24 centimetres

14   Forty tiles of dimensions 100 centimetres by 200 centimetres each are needed to completely cover the bathroom wall.

How many tiles of dimensions 200 centimetres by 400 centimetres each will be needed to completely cover the same bathroom wall?

A   10 tiles

B   20 tiles

C   80 tiles

D   160 tiles

E   320 tiles

15   If 7 times **N** is 4 less than 3**N**, what is 5 more than 4**N**?

A   -4

B   -2

C -1

D   1

E   2

16   The ratio of the two legs of a right triangle is 2 to 5.

If the area of the right triangle is 20 square centimetres, what is the length of the longer leg of the right triangle?

A   2 centimetres

B   4 centimetres

C   5 centimetres

D   10 centimetres

E   It cannot be determined.

17 Among the members of the Drama Club, $\frac{7}{12}$ are boys and $\frac{1}{4}$ of all the members of the Drama Club are girls with blonde hair.

What fraction of the girls in the Drama Club have blonde hair?

A $\frac{5}{48}$

B $\frac{5}{12}$

C $\frac{2}{5}$

D $\frac{3}{5}$

E $\frac{7}{12}$

18 A flask containing 400 millilitres of magic potion is 20 percent mermaid tears by volume.

If 100 millilitres of spring water is added into the flask, what percent of the new volume of magic potion is mermaid tears?

A   5 percent

B   10 percent

C   12 percent

D   15 percent

E   16 percent

19 How many tiles, each measuring 50 centimetres by 50 centimetres, are needed to completely cover a wall that measures 30 metres by 25 metres? (1 metre = 100 centimetres)

A   150 tiles

B   1 500 tiles

C   3 000 tiles

D   15 000 tiles

E   30 000 tiles

20 Patricia, working by herself, can finish decorating a cake in 4 hours.

Patricia and Rebecca, working together, can finish decorating the same cake in $2\frac{2}{5}$ hours.

How many hours will it take Rebecca, working by herself, to finish decorating the same cake?

A   2 hours

B   3 hours

C   4 hours

D   5 hours

E   6 hours

21 A box contains only red, blue, and white balls.

The ratio of the number of red balls to the number of blue balls to the number of white balls in the box is 33:17:21.

What fraction of the balls in the box are either blue or white?
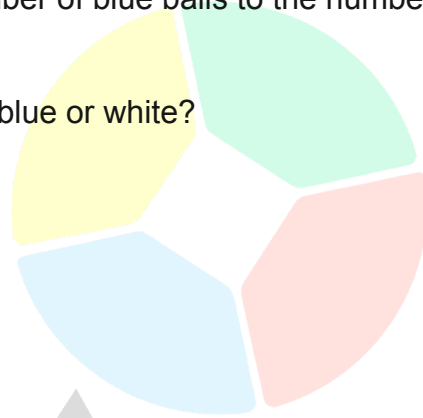
A $\frac{16}{53}$

B $\frac{17}{54}$

C $\frac{38}{71}$

D $\frac{25}{31}$

E $\frac{33}{38}$

22 Ruby's broken clock gains 9 minutes 27 seconds every 7 days.

If the rate of gain is constant, how much does Ruby's broken clock gain in one day?

A   1 minute 4 seconds

B   1 minute 21 seconds

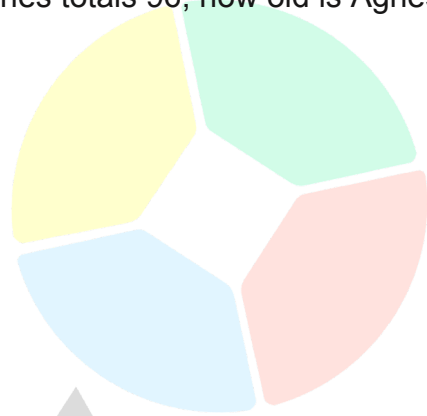C   1 minute 37 seconds

D   1 minute 54 seconds

E   2 minutes 11 seconds

23 Robert is 9 years older than Mark and 9 years younger than Agnes.

If the sum of the ages of Robert, Mark, and Agnes totals 96, how old is Agnes?

A   23 years old

B   32 years old

C   35 years old

D   41 years old

E   44 years old

24 John cuts a rope 75 metres long into two pieces.

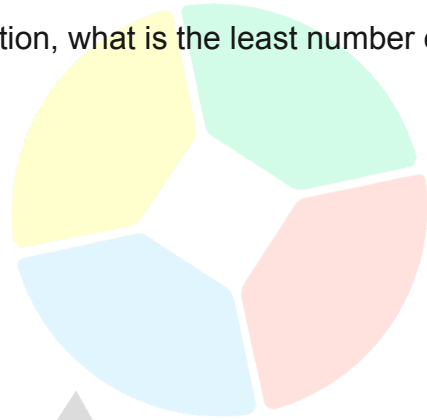One piece is 18 metres longer than twice the length of the other piece.

What is the length of the longer piece?

A   56 metres

B   52 metres

C   44 metres

D   36 metres

E   19 metres

25 The organisers of the convention expect that 60 percent of those invited will attend the convention.

If 300 people are needed to attend the convention, what is the least number of people that the organiser needs to invite?
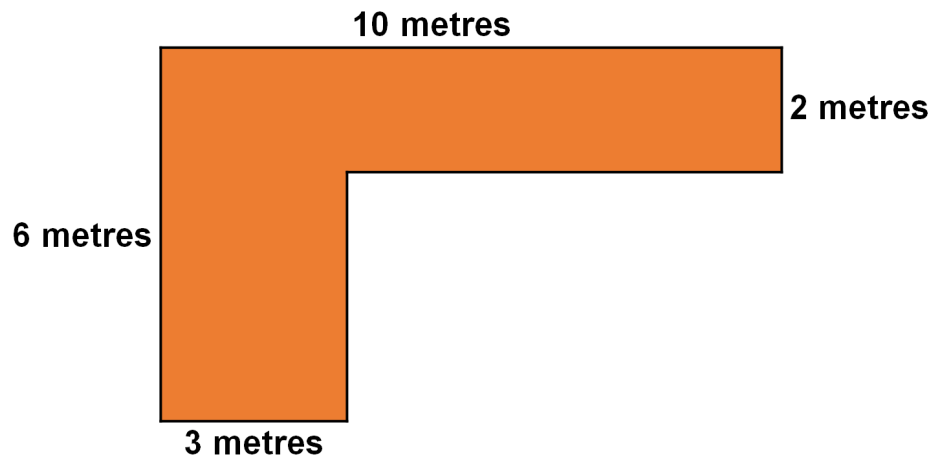
    A   400

    B   420

    C   480

    D   500

    E   600

26 A car dealer buys previously-owned cars for prices ranging from $750 to $1 500 and then sells the cars for prices ranging from $3 000 to $5 500.

What would be the minimum gross profit of the car dealer if he would have sold 20 of these cars? (Gross Profit = Revenue – Expenses)

    A $15 000

    B $30 000

    C $45 000

    D $50 000

    E $80 000

27

In the figure above, any pair of adjacent sides are perpendicular to each other.

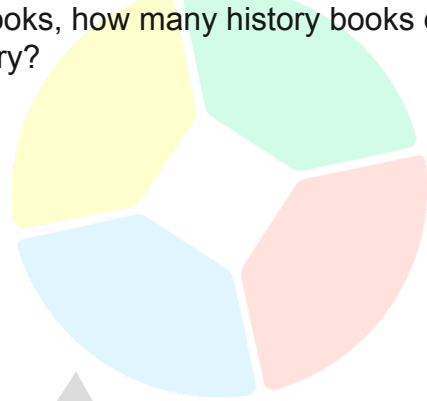What is the area of the figure?

A   32 square metres

B   38 square metres

C   44 square metres
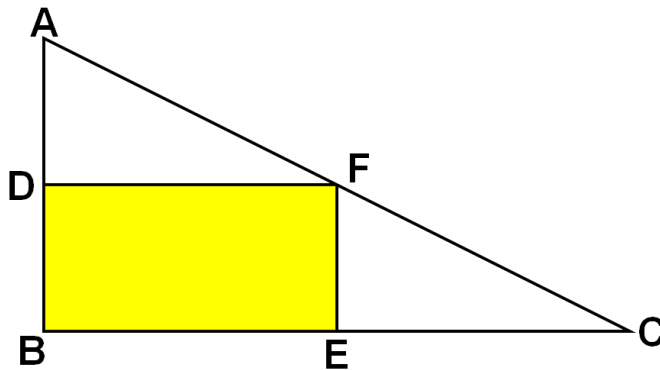
D   56 square metres

E   60 square metres

28   The Office of the City Mayor donated 280 books to the library.

If 30 percent of the donated books were science books, 25 percent were general knowledge books, and the rest were history books, how many history books did the Office of the City Mayor donate to the library?

A   70 books

B   84 books

C   126 books

D   154 books

E   196 books

29

In the figure above, **ABC** is a right triangle, and **D**, **E**, and **F** are midpoints of its sides.

What is the ratio of the coloured region to the uncoloured region of triangle **ABC**?

A   1 to 1

B   1 to 2

C   2 to 3

D   3 to 2

E   2 to 1

30 A box contains tennis balls and baseballs only, and the number of tennis balls
to the number of baseballs in the box is in the ratio of 5 to 3.

Which of the following could **NOT** be the total number of balls in the box?

A   80

B   500

C   1 200

D   1 600

E   2 000