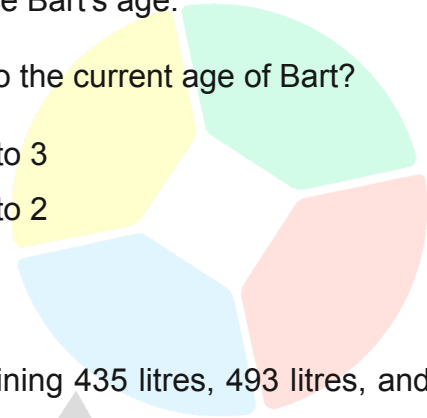


- 1 Ten years ago, Homer's age was three times Bart's age.

Ten years from today, Homer's age will be twice Bart's age.

What is the ratio of the current age of Homer to the current age of Bart?

- A 11 to 7
B 9 to 5
C 7 to 4
D 7 to 3
E 5 to 2



- 2 A vendor has three barrels of oil, each containing 435 litres, 493 litres, and 551 litres.

If the vendor wants to transfer all the oil in the barrels into containers of equal size without mixing, what is the least number of containers the vendor needs?

- A 61 containers
B 51 containers
C 49 containers
D 47 containers
E 45 containers

- 3 Mickey Mouse has three ropes of lengths 42 metres, 49 metres, and 63 metres.

He wants to cut the ropes into pieces of equal length.

What is the greatest possible length of each piece?

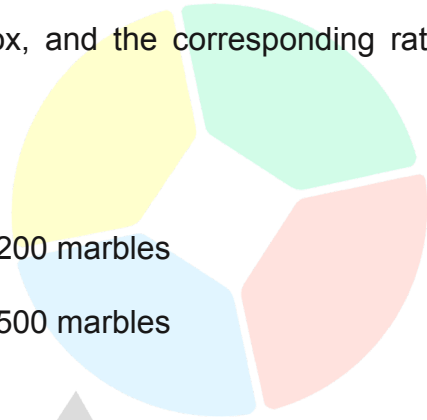
- A 7 metres
B 14 metres
C 21 metres
D 42 metres
E 63 metres

- 4 A box contained an unknown number of black and white marbles in a ratio of 3 to 4.

Jimmy added 300 black marbles into the box, and the corresponding ratio of black to white marbles became 9 to 8.

How many marbles are in the box now?

- A 1 700 marbles
B 2 400 marbles
C 3 800 marbles
D 4 200 marbles
E 4 500 marbles



- 5 The price of a marker is $\frac{1}{3}$ more than the price of a pen.

If the difference in the prices of the marker and the pen was 35 cents, what is the price of the marker?

- A \$0.70
B \$1.05
C \$1.40
D \$1.75
E \$2.45

- 6 The cost of 4 gums and 3 mini-mints is over \$12 but less than \$13.

The cost of 2 gums and 5 mini-mints is over \$8 but less than \$9.

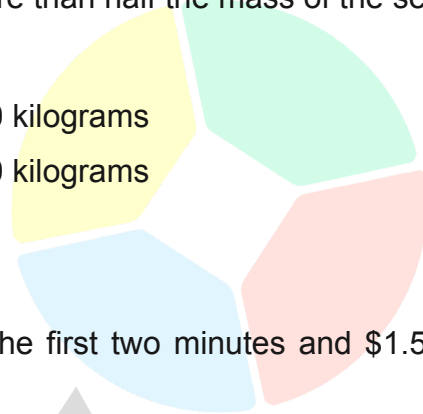
If the price of one gum is c cents more than the price of one mini-mint, which of the following could be the value of c ?

- A 60
B 105
C 130
D 220
E 270

- 10 The combined mass of the two boxes is 110 kilograms.

If the mass of the first box is 20 kilograms more than half the mass of the second box, what is the mass of the second box?

- A 20 kilograms
B 40 kilograms
C 50 kilograms
D 60 kilograms
E 90 kilograms



- 11 A certain long-distance plan charges \$4 for the first two minutes and \$1.50 for each additional minute after that.

What is the greatest number of minutes of a long-distance call Cindy can make with \$40?

- A 23 minutes
B 24 minutes
C 25 minutes
D 26 minutes
E 27 minutes

- 12 Six hundred students took the Science and Math aptitude tests.

Thirty-five percent of the students failed the Science aptitude test, and 45 percent failed the Math aptitude test.

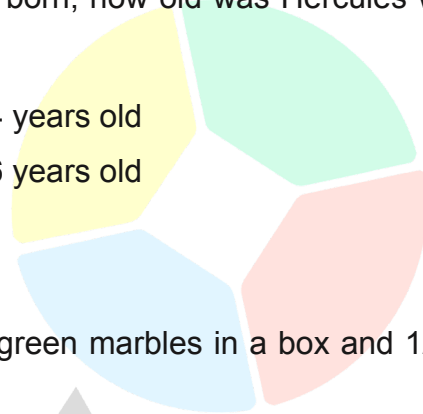
If 40 percent of students who passed the Math aptitude test also passed the Science aptitude test, how many students failed both aptitude tests?

- A 162 students
B 138 students
C 60 students
D 38 students
E 12 students

13 Zeus is currently three times as old as Hercules.

If Zeus was 42 years old when Hercules was born, how old was Hercules when Zeus was seven times as old as Hercules?

- A 7 years old
- B 10 years old
- C 12 years old
- D 14 years old
- E 16 years old



14 There are 4 times as many blue marbles as green marbles in a box and $\frac{1}{3}$ as many green marbles as red marbles.

If there are 48 red marbles in the box, how many blue marbles are there?

- A 144 blue marbles
- B 64 blue marbles
- C 36 blue marbles
- D 16 blue marbles
- E 9 blue marbles

15 Five barrels of oil contain an average (arithmetic mean) of 75 litres per barrel.

If the first four barrels contain an average of 72 litres per barrel, how much oil is on the fifth barrel?

- A 75 litres
- B 78 litres
- C 81 litres
- D 84 litres
- E 87 litres

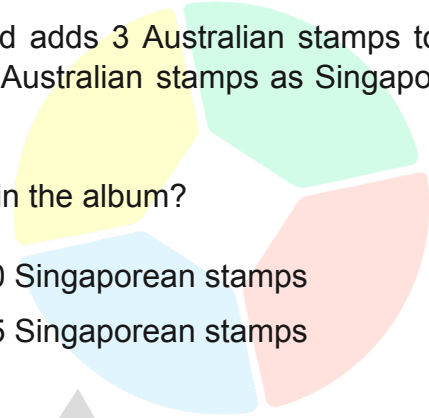
SchoolDrill

- 16** Dora has an album containing Australian and Singaporean stamps only, and there are three times as many Australian stamps as Singaporean stamps.

If Dora removes 12 Singaporean stamps and adds 3 Australian stamps to the album, then there will be six times as many Australian stamps as Singaporean stamps in the album.

How many Singaporean stamps are currently in the album?

- A** 15 Singaporean stamps **D** 50 Singaporean stamps
B 20 Singaporean stamps **E** 75 Singaporean stamps
C 25 Singaporean stamps



- 17** Old MacDonald's farm has exactly twice as many goats as pigs.

Which of the following cannot be the total number of goats and pigs on Old MacDonald's farm?

- A** 81 **D** 60
B 72 **E** 50
C 69

- 18** One-fifth of all the books on the shelf are hard-bound books, and two-thirds of all the hard-bound books are History books.

What fraction of the books on the shelf are not hard-bound History books?

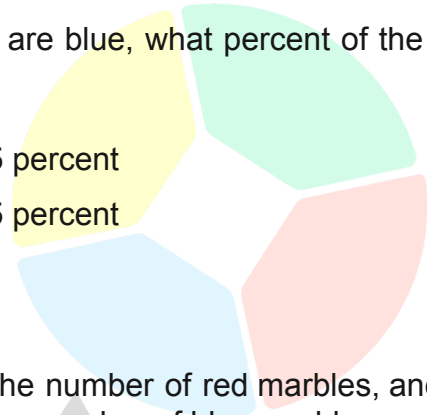
- A** $\frac{1}{15}$ **D** $\frac{11}{15}$
B $\frac{2}{15}$ **E** $\frac{13}{15}$
C $\frac{7}{15}$

School

- 19** Ten percent of all the cars in the parking lot are blue and have tinted windows, and 75 percent of the cars without tinted windows are blue.

If 40 percent of all the cars in the parking lot are blue, what percent of the cars have tinted windows?

- A** 25 percent
B 40 percent
C 60 percent
D 75 percent
E 85 percent



- 20** The number of blue marbles in the jar is $\frac{2}{3}$ the number of red marbles, and the number of yellow marbles is $\frac{1}{4}$ greater than the number of blue marbles.

If there are 14 more red marbles than yellow marbles in the jar, how many blue marbles are there?

- A** 12 blue marbles
B 28 blue marbles
C 42 blue marbles
D 56 blue marbles
E 70 blue marbles

- 21** Devin was planning his road trip.

He figured out that if he drove $\frac{1}{3}$ of the total distance on the first day and 60 kilometres on the second day, he still had half of the total distance to drive.

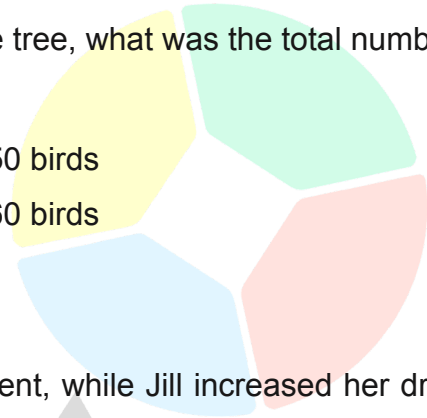
What was the total distance of his road trip?

- A** 360 kilometres
B 180 kilometres
C 120 kilometres
D 90 kilometres
E 60 kilometres

- 25** Ten percent of all the birds perched on the tree were parrots, and 80 percent of the parrots were green.

If there were 20 green parrots perched on the tree, what was the total number of birds perched on the tree?

- A** 200 birds
B 220 birds
C 230 birds
D 250 birds
E 260 birds



- 26** Jack decreased his driving speed by 20 percent, while Jill increased her driving speed by 20 percent.

If both now drive at the same speed, how much percent greater was Jack's original driving speed than Jill's original driving speed?

- A** $33 \frac{1}{3}$ percent
B $36 \frac{2}{3}$ percent
C 40 percent
D 48 percent
E 50 percent

- 27** One-fifth of the students in Steve Xu's selective class are from Sydney.

If the number of students from Newcastle is $\frac{2}{3}$ greater than the number of students from Sydney, what fraction of the students in Steve Xu's selective class are neither from Sydney nor Newcastle?

- A** $\frac{1}{5}$
B $\frac{2}{5}$
C $\frac{7}{15}$
D $\frac{8}{15}$
E $\frac{2}{3}$

- 28 A box contains gold and silver balls only.

The average (arithmetic mean) mass of all the gold balls is 56 grams higher than the average mass of all the silver balls.

If 160 gold balls and 120 silver balls are in the box, then the average mass of all the balls is how many grams higher than the average mass of all the silver balls?

- A 24 grams
B 28 grams
C 32 grams
D 36 grams
E 40 grams

- 29 One-twentieth of the marbles in the jar are red, and there are 30 red marbles in the jar.

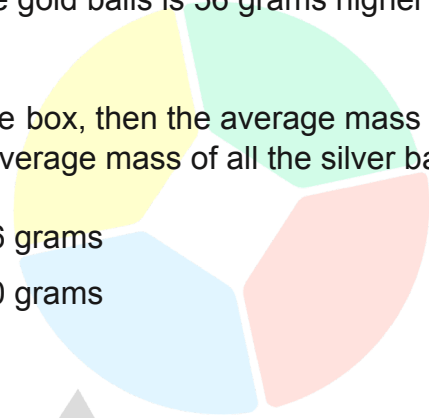
How many marbles are not red?

- A 30 marbles
B 300 marbles
C 540 marbles
D 570 marbles
E 600 marbles

- 30 Half of the students in Denise's class are boys, and 30 percent of the boys scored at least 90 percent on the test.

If 40 percent of the students in Denise's class scored at least 90 percent on the test, what percentage of the girls scored less than 90 percent on the test?

- A 30 percent
B 40 percent
C 50 percent
D 60 percent
E 70 percent



31 Two tanks are filled to capacity with water.

The capacity of the first tank is 600 litres more than the capacity of the second tank.

If 100 litres of water are removed from each tank, the first tank will contain three times as much water as the second tank.

What is the combined capacity of the two tanks?

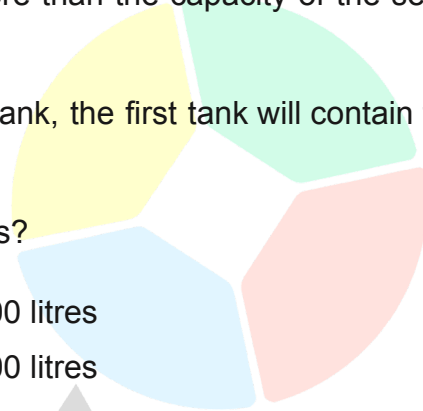
A 1 400 litres

B 1 200 litres

C 1 000 litres

D 900 litres

E 800 litres



32 As a car sales agent, Patrick can choose one of two modes of monthly salary.

The first mode is he receives a base monthly salary of \$25 000 plus a 15 percent commission on total monthly sales only if his total monthly sales exceed \$100 000.

The second mode is he receives a base monthly salary of \$10 000 plus a 25 percent commission on his total monthly sales.

At what total monthly sales would Patrick receive the same monthly salary in either mode?

A \$175 000

B \$160 000

C \$125 000

D \$120 000

E \$60 000

School

33 Big Bird made a large pizza that he cut into 8 slices.

He cut half of the slices into thirds and cut 75 percent of the remaining slices into halves.

How many slices of pizza did Big Bird have now?

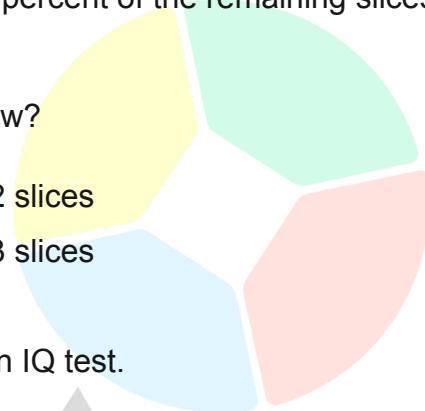
A 16 slices

D 22 slices

B 18 slices

E 23 slices

C 19 slices



34 Dexter has one hour to complete a 60-question IQ test.

If Dexter completes the first 30 questions in 20 minutes, how many seconds does he have on average to complete each of the remaining questions?

A 60 seconds

D 90 seconds

B 70 seconds

E 100 seconds

C 80 seconds

35 A bookshelf at the library contains 40 books.

If 30 of the books on the bookshelf are hard-bound books and 20 are History books, what is the greatest possible number of hard-bound History books on the bookshelf?

A 10

D 25

B 15

E 30

C 20