

- 1** Uncle Ben's farm had an average output of 300 kilograms of barley per hectare, while Aunt Mary's farm had an average output of 350 kilograms of barley per hectare.

Aunt Mary's farm is 15 hectares less than Uncle Ben's farm, and Aunt Mary's farm harvested 2 000 kilograms of barley more than Uncle Ben's farm.

What is the area of Uncle Ben's farm?

- | | |
|-----------------------|-----------------------|
| A 130 hectares | D 160 hectares |
| B 135 hectares | E 180 hectares |
| C 145 hectares | |

- 2** Doctor Strange specializes in implanting gold and silver teeth.

He charges \$650 for a gold tooth and \$325 for a silver tooth.

If his total fees for implanting gold and silver teeth last week were \$15 925, and he implanted five more gold teeth than silver teeth, how many teeth in total did he implant last week?

- | | |
|-------------------|-------------------|
| A 31 teeth | D 34 teeth |
| B 32 teeth | E 35 teeth |
| C 33 teeth | |

- 3** During a particular period, Scrooge McDuck received \$1 000 a week the first week, then \$1 000 two weeks later, then \$1,000 four weeks later, and so on.

If this pattern continued indefinitely, how many weeks did it take Scrooge McDuck to receive \$5 000?

- | | |
|-------------------|-------------------|
| A 5 weeks | D 32 weeks |
| B 16 weeks | E 63 weeks |
| C 31 weeks | |

- 4** Fifteen movie theatres had an average (arithmetic mean) of 600 patrons per theatre per day.

If six of the theatres close down, but the total theatre attendance stays the same, what is the average daily attendance per theatre among the remaining theatres?

- | | |
|----------------|----------------|
| A 500 | D 1 200 |
| B 750 | E 1 500 |
| C 1 000 | |

- 5** Woody's Toy Store has 10 toy cars for every 40 toy cars that Buzz's Toy Store has.

The price ratio between the toy cars in Buzz's Toy Store and the toy cars in Woody's Toy Store is 3:4.

If all the toy cars were sold in both stores until the stock ran out, what is the ratio between the total amount Woody's Toy Store earned to the total amount Buzz's Toy Store earned?

- | | |
|--------------|---------------|
| A 1:3 | D 3:4 |
| B 2:3 | E 3:16 |
| C 2:5 | |

- 6** Eggs are sold in small packs of six or large packs of eleven.

If Big Bird bought exactly 70 eggs, what could be the number of large packs he bought?

- | | |
|------------------------|------------------------|
| A 2 large packs | D 5 large packs |
| B 3 large packs | E 6 large packs |
| C 4 large packs | |

- 7 Harry planned to complete a certain task on Wednesday, January 1, but the completion date was postponed 48 days due to illness.

On which day of the week in February was the task completed?

- | | |
|-------------|------------|
| A Monday | D Thursday |
| B Tuesday | E Friday |
| C Wednesday | |

- 8 Bert and Ernie each own a collection of baseball cards.

The two collections combined contain 120 baseball cards.

If Bert were to give Ernie 5 baseball cards and, in return, get 2 of Ernie's baseball cards, Bert would have 22 more baseball cards than Ernie does.

How many baseball cards does Ernie have before the exchange?

- | | |
|---------------------|---------------------|
| A 85 baseball cards | D 46 baseball cards |
| B 74 baseball cards | E 35 baseball cards |
| C 52 baseball cards | |

- 9 Barbie bought two tickets to Taylor Swift's The Eras Tour concert - a standard ticket for \$156 and a VIP ticket for \$184.

She sold the standard ticket for 25 percent more than she paid for it and sold the VIP ticket for 25 percent less than she paid for it.

What was her total gain or loss?

- | | |
|-------------------------|-----------------|
| A A loss of \$7 | D A gain of \$5 |
| B A loss of \$5 | E A gain of \$7 |
| C Neither gain nor loss | |

- 10** Half the passengers of the van exit at each stop, and no additional passengers board the van.

If only one passenger was left on the van after the third stop, how many passengers were on the van at the start?

- | | |
|------------------------|-----------------------|
| A 20 passengers | D 6 passengers |
| B 16 passengers | E 4 passengers |
| C 8 passengers | |

- 11** Last year, a car dealer made a total of \$150 000.

How much did the car dealer make in June last year if his June sales were half the monthly average?

- | | |
|-------------------|-------------------|
| A \$6 250 | D \$25 000 |
| B \$12 500 | E \$48 000 |
| C \$15 000 | |

- 12** Brothers Mario and Luigi are paid \$8 per hour for an 8-hour day and $\frac{3}{2}$ times that rate for each hour in excess of 8 hours in a single day.

If they received \$80 for a single day's work, how long did they work that day?

- | | |
|-----------------------------|-----------------------------|
| A 6 hours 40 minutes | D 9 hours 40 minutes |
| B 9 hours 20 minutes | E 10 hours |
| C 9 hours 30 minutes | |

- 13** In the town of Bellwood, 40 percent of the population exhibits a certain mutation, while the rest do not.

If 8 000 people in Bellwood exhibit a certain mutation, how many people do not exhibit the certain mutation?

- | | |
|-----------------|-----------------|
| A 3 200 | D 16 000 |
| B 4 800 | E 20 000 |
| C 12 000 | |

- 14** The San Bernardo Cowboys offered Derek a three-year contract that provided a signing bonus of \$50 000 plus an annual salary of \$100 000 in the first year and an increase in the annual salary of 20 percent over the previous year for the next two years.

The Greenwood Lions offered him a three-year contract providing an annual salary of \$150 000 in the first year, an increase in the annual salary of 10 percent over the previous year for the next two years, and no signing bonus.

If Derek accepts the offer of the Greenwood Lions and fulfills the three-year contract terms, he will receive how much more money by choosing the Greenwood Lions offer over the San Bernardo Cowboys offer?

- | | |
|-------------------|--------------------|
| A \$32 500 | D \$92 000 |
| B \$50 000 | E \$100 000 |
| C \$82 500 | |

- 15** Paint costs \$3.20 per litre, and a litre of paint is enough to cover 20 square metres.

How much will it cost to paint the outside of a cube that measures 10 metres on each edge?

- | | |
|------------------|-------------------|
| A \$1.60 | D \$108.00 |
| B \$16.00 | E \$196.00 |
| C \$96.00 | |

- 16** There are 1 500 workers at the factory, and each is paid \$8 per hour for the first 50 hours worked during a week and x percent more than that rate for hours worked in excess of 50 hours.

If the total payroll for the workers at the end of a week, in which 20 percent of them worked 20 hours, 50 percent worked 40 hours, and the rest worked 80 hours, is \$630 000, what is the value of x ?

- | | |
|-------------|-------------|
| A 10 | D 40 |
| B 20 | E 50 |
| C 40 | |

- 17** Agnes and Cecilia want to meet for lunch on the weekend.

They decide to meet somewhere on the 200-kilometre highway connecting their houses, and they start driving simultaneously from their respective house toward each other along the same route.

Agnes drives an average of 50 kilometres per hour, and Cecilia drives an average of 70 kilometres per hour.

How many kilometres from Agnes's house will the two meet?

- | | |
|--------------------------------------|--------------------------------------|
| A 56 $\frac{3}{4}$ kilometres | D 83 $\frac{1}{3}$ kilometres |
| B 60 kilometres | E 96 $\frac{3}{4}$ kilometres |
| C 72 $\frac{1}{2}$ kilometres | |

- 18** Bill Gates owns several cars and motorcycles.

If the number of tires (excluding spare tires) on the vehicles is 30 more than twice the number of vehicles, how many cars does Bill Gates own?

- | | |
|------------------|------------------|
| A 10 cars | D 30 cars |
| B 15 cars | E 45 cars |
| C 20 cars | |

- 19** Andrew and Richard are painting a fence.

Andrew paints at a uniform rate of 40 metres every 160 minutes, while Richard paints at a uniform rate of 50 metres every 125 minutes.

If the two paint simultaneously, how many minutes will it take them to paint the fence that is 260 metres long?

- | | |
|----------------------|----------------------|
| A 320 minutes | D 500 minutes |
| B 400 minutes | E 580 minutes |
| C 450 minutes | |

- 20** Mia bought a table originally priced at \$45 at an outlet store for \$27.

If Sasha bought the same table from an online retailer for two-ninths less than the price Mia paid, by what percent did the online retailer discount the price of the table from its original price?

- | | |
|-----------------------------------|-----------------------------------|
| A 13 $\frac{1}{3}$ percent | D 53 $\frac{1}{3}$ percent |
| B 27 percent | E 64 percent |
| C 47 $\frac{1}{2}$ percent | |

- 21** A jar only contains 28 red marbles, 45 green marbles, and 52 blue marbles.

How many green marbles must be added into the jar so that green marbles account for 60 percent of all the marbles in the jar?

- | | |
|---------------------------|----------------------------|
| A 60 green marbles | D 100 green marbles |
| B 75 green marbles | E 120 green marbles |
| C 80 green marbles | |

- 22** A cab charges an initial fee of \$2.25 at the beginning of a trip, and an additional charge of \$0.35 for each $\frac{2}{5}$ of a kilometre travelled.

What is the total charge for a trip of 3.6 kilometres?

- | | |
|-----------------|-----------------|
| A \$3.15 | D \$5.05 |
| B \$4.45 | E \$5.40 |
| C \$4.80 | |

- 23** An office supply store only sells model A, model B, and model C calculators.

The selling price of model A is \$66, which is 120 percent that of model B, while the selling price of B is p percent of model C's.

The store sells 2 000 calculators, $\frac{1}{4}$ of which are model B, and an equal number of models A and C.

If the total revenue from the sale of calculators is \$242 000, what is the value of p ?

- | | |
|-------------|-------------|
| A 60 | D 20 |
| B 35 | E 15 |
| C 25 | |

- 24** From a group of 12 students with an average mass of 72.5 kilograms, two students leave.

Because the two leave, the average mass of the group falls to 71.25 kilograms.

What is the average mass of the two students who leave the group?

- | | |
|--------------------------|---------------------------|
| A 78.50 kilograms | D 157 kilograms |
| B 78.75 kilograms | E 157.50 kilograms |
| C 79.25 kilograms | |

- 25** ACME Computers only makes model X, model Y, and model Z computers.

The selling price of model X is \$700, which is 140 percent of the selling price of model Y, and 35 percent of the selling price of model Z.

If ACME Computers sells 210 computers, $\frac{3}{7}$ of which are model Y, and an equal number of models X and Z, what is the total revenue from the sale of computers?

- | | |
|--------------------|--------------------|
| A \$132 900 | D \$207 000 |
| B \$178 500 | E \$290 000 |
| C \$190 000 | |

- 26** David's current age is $\frac{1}{6}$ of his father's current age.

His father's age will be twice Alice's age after 10 years.

If Alice's eighth birthday was celebrated two years ago, what is David's current age?

- | | |
|-----------------------|----------------------|
| A 10 years old | D 6 years old |
| B 8 years old | E 5 years old |
| C 7 years old | |

- 27** Gene is planning a hike that will take him up a mountain using one route and back down using another route.

He plans to hike down the mountain at a rate of one and a half times the rate he will use on the way up, but the time each route will take is the same.

If he goes up the mountain at a rate of 4 kilometres per day and it will take him two days, how many kilometres long is the route down the mountain?

- | | |
|-----------------------|------------------------|
| A 4 kilometres | D 12 kilometres |
| B 6 kilometres | E 16 kilometres |
| C 8 kilometres | |

- 28** Jacob works at the local video store, earning \$3.50 per hour.

If he got a bonus of \$25 this week, what is the minimum number of hours he has worked if he took home at least \$165 this week?

- | | |
|-------------------|-------------------|
| A 20 hours | D 35 hours |
| B 25 hours | E 40 hours |
| C 30 hours | |

- 29** Victor is in charge of selling red tokens and yellow tokens only.

He is paid \$25 per red token he sells and \$30 per yellow token he sells.

Which could possibly represent his earnings this month if he sold twice as many red tokens as the yellow token?

- | | |
|----------------|----------------|
| A \$200 | D \$350 |
| B \$250 | E \$400 |
| C \$300 | |

- 30** If Elmo were $\frac{1}{4}$ of his current age, he would be 14 years younger than Arthur's current age.

If Arthur is currently 22 years younger than Elmo's current age, how old is Elmo?

- | | |
|-----------------------|-----------------------|
| A 36 years old | D 48 years old |
| B 40 years old | E 52 years old |
| C 44 years old | |

- 31** Container A has twice the capacity of container B, and container A has $\frac{1}{3}$ the capacity of container C.

Container B is full of water, and container C is half full of water.

When the water from container B is poured into container C, container C will be filled to what fraction of its capacity?

- | | |
|------------------------|------------------------|
| A $\frac{1}{6}$ | D $\frac{2}{3}$ |
| B $\frac{1}{4}$ | E $\frac{3}{4}$ |
| C $\frac{1}{3}$ | |

- 32** Patricia has twice as many ribbons as Jody.

If Patricia gave Jody 10 of her ribbons, she would have half as many as Jody.

How many ribbons do Patricia and Jody have together?

- | | |
|---------------------|---------------------|
| A 10 ribbons | D 40 ribbons |
| B 20 ribbons | E 60 ribbons |
| C 30 ribbons | |

- 33** Debbie and Michelle regularly visit the museum every 3 and 4 days, respectively.

If they both were at the museum on a Wednesday, which day of the week would they be in the library together the next time?

- | | |
|------------------|-------------------|
| A Sunday | D Friday |
| B Monday | E Saturday |
| C Tuesday | |

- 34** Dexter is buying a new microscope for his laboratory and plans to pay for it on an installment plan.

He can pay for it over a period of 6 months or 15 months.

If the microscope costs \$1 850, how many additional dollars would Dexter have to pay each month to pay for it over 6 months rather than 15 months?

- | | |
|----------------|----------------|
| A \$103 | D \$203 |
| B \$123 | E \$308 |
| C \$185 | |

35 In 10 years, Sergio will be as old as Carolyn is now.

Thirty years ago, Carolyn was twice as old as Sergio was.

How old is Sergio now?

A 20 years old

D 35 years old

B 24 years old

E 40 years old

C 32 years old