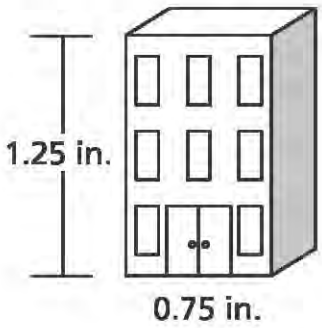
1 The drawing of a building, shown below, has a scale of 1 inch to 30 feet.




What is the actual height, in feet, of the building?

A 22.5

B 24

C 37.5

D 40

2 What is the value of the expression below?

$$-0.75-\left(-\frac{2}{5}\right)+0.4+\left(-\frac{3}{4}\right)$$

A $-1.5$

B $-0.7$

C 0.8

D 2.3

7 Lehana and Marty each opened a savings account with a deposit of $100.

- Lehana earned 2.5% simple interest per year.
- Marty earned 2% simple interest per year.
- Neither of them made additional deposits or withdrawals.

How much more did Lehana receive in interest than Marty after three years?

A $0.50

B $1.50

C $5.00

D $15.00

8 Addison wants to ride her bicycle more than 80 miles this week. She has already ridden her bicycle 18 miles. Which inequality could be used to determine the mean number of miles, $m$, she would need to ride her bicycle each day for six more days to achieve her goal?

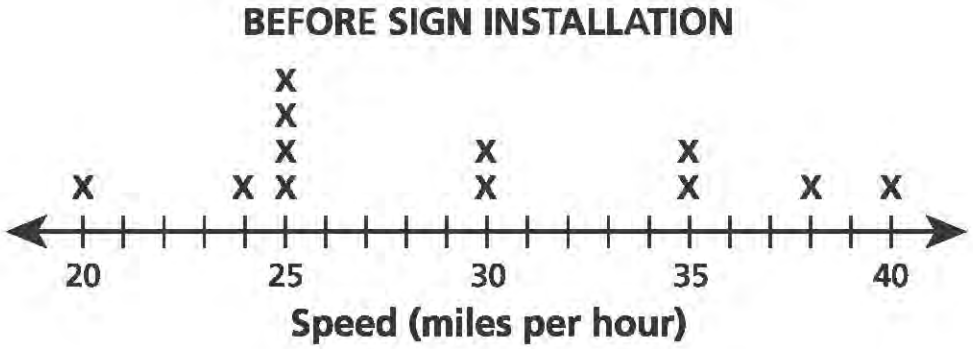
A $6m + 18 < 80$

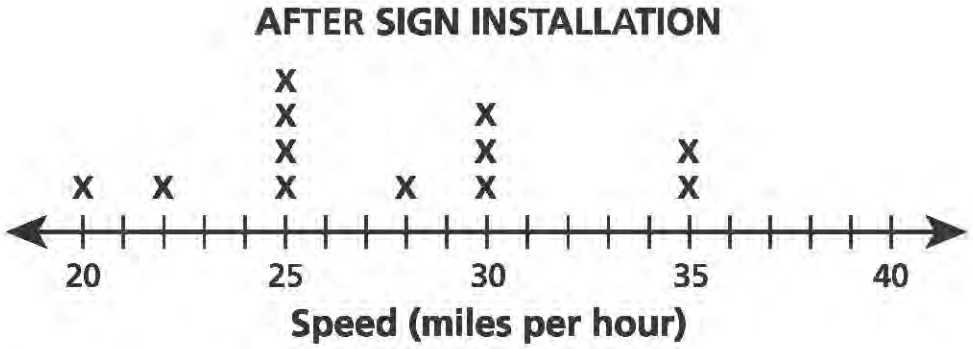
B $6m - 18 < 80$

C $6m + 18 > 80$

D $6m - 18 > 80$

9 An electronic sign that showed the speed of motorists was installed on a road. The line plots below show the speeds of some motorists before and after the sign was installed.




Based on these data, which statement is true about the speeds of motorists after the sign was installed?

A The mean speed and the range of the speeds of the motorists decreased.

B The median speed and the range of the speeds of the motorists increased.

C The mean speed of the motorists decreased and the range of the speeds increased.

D The median speed of the motorists increased and the range of the speeds decreased.

**10** A number, $n$, is multiplied by $-\frac{5}{8}$. The product is $-0.4$. What is the value of $n$?

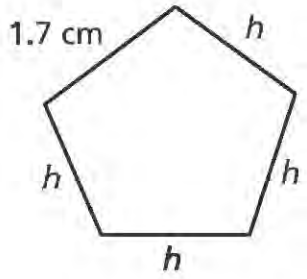
A $-\frac{16}{25}$

B $-\frac{1}{4}$

C $\frac{1}{4}$

D $\frac{16}{25}$

**11** The perimeter of a certain pentagon is 10.5 centimeters. Four sides of this pentagon have the same length, in centimeters, $h$, and the other side has a length of 1.7 centimeters, as shown below.




What is the value of $h$?

A 2.2

B 3.7

C 4.8

D 8.8

**12** A school principal wants to determine which type of speaker the students prefer to invite to an assembly for the entire student population. Which survey method would produce the **best** representative sample?

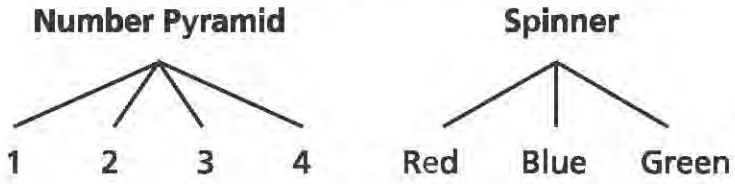
A survey every fifth person who shops at a mall

B survey all of the students on the student council

C survey every tenth student entering the school one morning

D survey all of the students who went to the last basketball game

**13** Henry has a fair number pyramid with four faces and a spinner with three equal-sized colored sections. The possible outcomes for each are shown below.




What is the probability that the number pyramid will land on three and the spinner will stop on blue?

A $\frac{1}{12}$

B $\frac{3}{12}$

C $\frac{4}{12}$

D $\frac{7}{12}$

**14** A company ordered 10 boxed lunches from a deli for $74.50. Each boxed lunch cost the same amount. Which equation represents the proportional relationship between $y$, the total cost of the boxed lunches, and $x$, the number of boxed lunches?

A $7.45x = y$

B $\frac{7.45}{x} = \frac{10}{y}$

C $74.50x = y$

D $\frac{74.50}{x} = \frac{10}{y}$

**15** What is the value of the expression $\frac{\left(\frac{2}{3} - \frac{5}{6}\right)}{\frac{3}{4}}$?

A $-\frac{2}{9}$

B $-\frac{1}{8}$

C $\frac{1}{8}$

D $\frac{2}{9}$

**16** Which event is **most** likely to occur?

A flipping a fair coin, with sides labeled heads and tails, and the coin landing on tails

B choosing a marble out of a bag, with nine blue marbles and one red marble, and the marble being red

C rolling a fair number cube, with faces labeled one to six, and the cube landing on a number less than six

D spinning the arrow on a spinner, with four equal sectors labeled one to four, and the arrow landing on a number greater than one

**20** A trailer will be used to transport several 40-kilogram crates to a store. The greatest amount of weight that can be loaded onto the trailer is 1,050 kilograms. An 82-kilogram crate has already been loaded onto the trailer. What is the greatest number of 40-kilogram crates that can also be loaded onto the trailer?

A 24

B 25

C 26

D 27

**21** What is the value of the expression?

$$\frac{8}{15} \div (-0.35)$$

A $-\frac{75}{14}$

B $-\frac{32}{21}$

C $-\frac{21}{32}$

D $-\frac{14}{75}$

**22** What is the value of the expression below?

$$\left(3\frac{1}{2} - 9\frac{3}{4}\right) \div (-2.5)$$

A $-2.5$

B $-2.3$

C 2.3

D 2.5

***GO ON***

27 Which expression is equivalent to $4 - (-7)$?

A $7 + 4$

B $4 - 7$

C $-7 - 4$

D $-4 + 7$

28 The elevation at ground level is 0 feet. An elevator starts 90 feet below ground level. After traveling for 15 seconds, the elevator is 20 feet below ground level. Which statement describes the elevator's rate of change in elevation during this 15-second interval?

A The elevator traveled upward at a rate of 6 feet per second.

B The elevator traveled upward at a rate of $4\frac{2}{3}$ feet per second.

C The elevator traveled downward at a rate of 6 feet per second.

D The elevator traveled downward at a rate of $4\frac{2}{3}$ feet per second.

29 Which expression represents the product of 3 and $\left(\frac{5}{4}n + 1.8\right)$?

A $5.55n$

B $9.15n$

C $3.75n + 1.8$

D $3.75n + 5.4$

**33** Mike took a taxi from his home to the airport. The taxi driver charged an initial fee of $6 plus $3 per mile. The total fare was $24, not including the tip. How many miles did Mike travel by taxi on this ride?

A 2

B 6

C 8

D 10

**34** The original selling price of a share of stock was $d$ dollars. The selling price for a share of the same stock at a later date was represented by the expression $1.15(0.95d)$. Which description could explain what happened to the price of the share of stock?

A The price decreased by 5% and then increased by 0.15%.

B The price decreased by 95% and then increased by 0.15%.

C The price decreased by 5% and then increased by 15%.

D The price decreased by 95% and then increased by 15%.

**35** A clothing store used the sign shown below to advertise a discount on shirts.

**DISCOUNT**

Buy Two Shirts

Get 50% Off Third Shirt

Ky wants to buy three shirts, which were originally priced $49.96 each. The store will discount the price of the third shirt and then apply a 7.1% tax to the total cost of all three shirts. Including the tax, what will be the mean cost of each shirt?

A $41.99

B $42.70

C $44.59

D $45.18

***GO ON***

**36** The results for a survey of 120 students who were selected randomly are listed below:

- 60 students have a cell phone plan with company X
- 36 students have a cell phone plan with company Y
- 24 students do not have a cell phone

The total population of students was 380. Based on the data, what is the **best** approximation for the total number of students who have a cell phone plan with company Y?

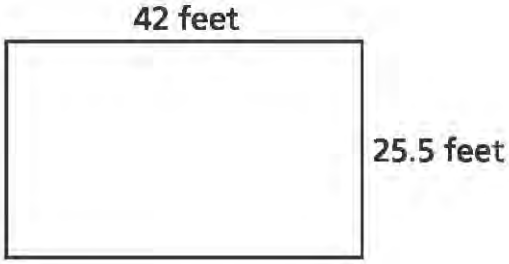
A 114

B 127

C 143

D 163

**37** Wallpaper was applied to one rectangular wall of a large room. The dimensions of the wall are shown below.




If the total cost of the wallpaper was $771.12, what was the cost, in dollars, of the wallpaper per square foot?

A $0.61

B $0.72

C $1.39

D $1.65

38 Three friends own a landscaping business. The number of hours each friend spent on the same project is shown in the table below.

**HOURS WORKED ON LANDSCAPING PROJECT**

| Name | Hours Worked |
|---|---|
| Edgar | $17\frac{1}{4}$ |
| Kelly | $18\frac{1}{4}$ |
| Shawn | $14\frac{1}{2}$ |

In total, they earned $850 for the job. They put 15% of this amount into a joint savings account for future expenses. They then divided the rest proportionally based on the number of hours each worked. How much money did Shawn receive?

A $209.53

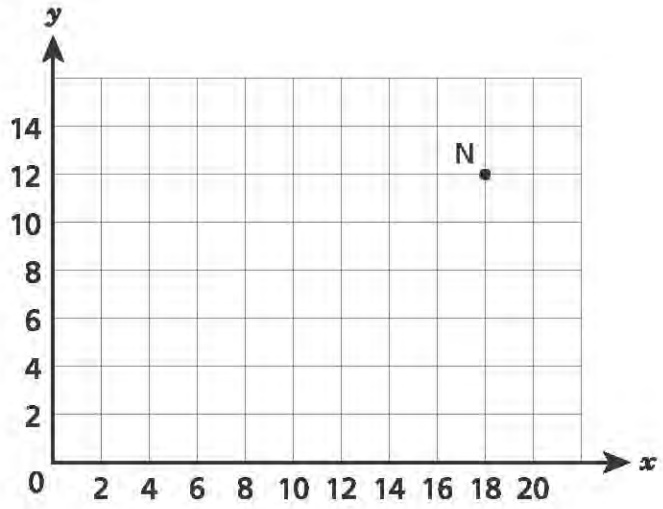
B $240.83

C $283.48

D $295.11

***GO ON***

39 Line KN represents a proportional relationship. Point N lies at **(18, 12)**, as shown on the graph below.




Which ordered pair could represent the coordinates of point K?

A **(6, 0)**

B **(2, 3)**

C **(1.5, 0)**

D **(7.5, 5)**

40 Which expression is equivalent to the expression $-3(4x - 2) - 2x$?

A $-8x$

B $-16x$

C $-14x - 2$

D $-14x + 6$

**41** Maya uses blue and orange fabric to make identical wall decorations. The graph below shows the relationship between the amounts of blue and orange fabric used.


What is the constant of proportionality as shown in the graph?

A $\frac{3}{10}$

B $\frac{2}{5}$

C $\frac{3}{7}$

D $\frac{1}{2}$

**42** Lance bought $n$ notebooks that cost \$0.75 each and $p$ pens that cost \$0.55 each. A 6.25% sales tax will be applied to the total cost. Which expression represents the total amount Lance paid, including tax?

A $0.0625(n + p) + 0.0625(0.75n + 0.55p)$

B $(0.75n + 0.55p) + 0.0625(0.75n + 0.55p)$

C $0.75(0.0625n) + 0.55(0.0625n)$

D $0.75(1.0625n) + 0.55(1.0625n)$

**GO ON**

**43** A recycling plant processes an average of $\frac{1}{3}$ ton of glass each minute. At approximately what rate does the recycling plant process glass, in tons per day? (1 day = 24 hours)

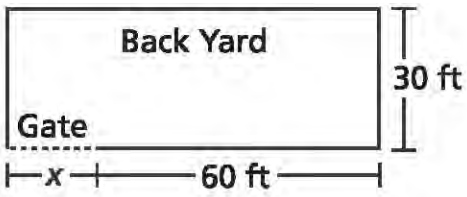
A 20

B 180

C 480

D 4,320

**44** When Keisha installed a fence along the 200-foot perimeter of her rectangular back yard, she left an opening for a gate. In the diagram below, she used $x$ to represent the length, in feet, of the gate.




What is the value of $x$?

A 10

B 20

C 25

D 30

**45** Last year 950 people attended a town's annual parade. This year 1,520 people attended. What was the percent increase in attendance from last year to this year?

A 37.5%

B 57.0%

C 60.0%

D 62.5%