Chapter 3. Solving Linear Equations

Ex. 3.6

Answer 1CU.

A ratio is a comparison of two numbers by division

The ratio of *x* to *y* expressed in *x* to *y*

An equation stating that two rates are equal is called a proportion.

Answer 2CU.

The return on sales ratio measures how much of revenue results in profit for company rather than going towards paying company's costs.

A higher ratio means that more money in profit.

Company's revenue and expenses are numbers that are returned on sales.

Ratio is measured as a percentage which means how many cents per dollar are kept as profit.

The return on sales ratio is 20 percent means company generates 20 cents of profit per dollar of sales.

Answer 3CU.

Consider the ratio containing a variable $30:4=m:6$

The proportion $\frac{30}{4}=\frac{m}{6}$

$\Rightarrow 30(6)=4(m)$ Cross product

$\Rightarrow 180=4m$

$\Rightarrow \frac{180}{4}=\frac{4m}{4}$ Dividing with 4 on each side

$\Rightarrow 45=m$

To solve the proportion contains a variable following are the steps

1) Take the original proportion

2) Find the cross products

3) Simplify

Answer 4CU.

The ratios given are $\frac{4}{11}, \frac{12}{13}$

$\Rightarrow \frac{4}{11} = \frac{12}{13}$ Write the equation

$\Rightarrow 4(13) = 12(11)$ Using cross product

$\Rightarrow 52 \neq 132$ Simplify

The cross products are not equal, so $\frac{4}{11} \neq \frac{12}{13}$

No.

Answer 5CU.

The ratios given are $\frac{16}{17}, \frac{8}{9}$

$\Rightarrow \frac{16}{17} = \frac{8}{9}$ Write the equation

$\Rightarrow 16(9) = 8(17)$ Using cross product

$\Rightarrow 144 \neq 112$ Simplify

The cross products are not equal, so $\frac{16}{17} \neq \frac{8}{9}$.

Answer 6CU.

The ratios given are $\frac{2.1}{3.5}, \frac{0.5}{0.7}$

$\Rightarrow \frac{2.1}{3.5} = \frac{0.5}{0.7}$ Write the equation

$\Rightarrow 2.1(0.7) = 0.5(3.5)$ Using cross product

$\Rightarrow 1.47 \neq 1.75$

Answer 7CU.

The given proportion is $\frac{3}{4} = \frac{6}{x}$

$\Rightarrow \frac{3}{4} = \frac{6}{x}$ Original Equation

$\Rightarrow 3(x) = 6(x)$ Using cross product

$\Rightarrow 3x = 24$ Simplify

$\Rightarrow \frac{3x}{3} = \frac{24}{3}$ Divide each side by 3

$\Rightarrow x = 8$ Simplify

The value of x is 8.

Answer 8CU.

The given proportion is $\frac{a}{45}=\frac{5}{15}$

$\Rightarrow \frac{a}{45}=\frac{5}{15}$ Original Equation

$\Rightarrow 15(a)=5(45)$ Using cross product

$\Rightarrow 15a=225$ Simplify

$\Rightarrow \frac{15a}{15}=\frac{225}{15}$ Divide each side by 15

$\Rightarrow a=15$

The value of *a* is 15.

Answer 9CU.

The given proportions are $\frac{0.6}{1.1}=\frac{n}{8.47}$

$\Rightarrow \frac{0.6}{1.1}=\frac{n}{8.47}$ Original equation

$\Rightarrow 0.6(8.47)=1.1(n)$ multiply

$\Rightarrow 5.082=11n$

$\Rightarrow \frac{5.082}{11}=\frac{11n}{11}$ Divide each side by 11

$\Rightarrow n=0.462$

$\Rightarrow n=0.46$ Rounding to nearest hundred

The value of n is 0.46.

Answer 10CU.

Let 'm'represent number of gallons of gasoline to have 350 mile trip.

The proportion for the problem is $\frac{m}{350}=\frac{5}{120}$

$\Rightarrow m(120)=5(350)$ Using cross product

$\Rightarrow 120m=1750$ Multiply

$\Rightarrow \frac{120m}{120}=\frac{1750}{120}$ Divide with 120 on each side

$\Rightarrow m=14.583$

Therefore to travel 350 miles Lehman's minivan requires 14.583 gallons of gasoline.

Answer 11PA.

The ratios given are $\frac{3}{2}, \frac{21}{14}$

$\Rightarrow \frac{3}{2} = \frac{21}{14}$ Write the equation

$\Rightarrow 3(14) = 21(2)$ Using cross product

$\Rightarrow 42 = 42$ Simplify

Yes.

Answer 12PA.

The ratios given are $\frac{8}{9}, \frac{12}{18}$

$\Rightarrow \frac{8}{9} = \frac{12}{18}$ Write the equation

$\Rightarrow 8(18) = 9(12)$ Using cross product

$\Rightarrow 144 \neq 108$ Simplify

No.

Answer 13PA.

The ratios given are $\frac{2.3}{3.4}, \frac{3.0}{3.6}$

$\Rightarrow \frac{2.3}{3.4} = \frac{3.0}{3.6}$ Write the equation

$\Rightarrow 2.3(3.6) = 3.0(3.4)$ Using cross product

$\Rightarrow 8.28 \neq 10.2$ Simplify

No.

Answer 14PA.

The ratios given are $\frac{4.2}{5.6}, \frac{1.68}{2.24}$

$\Rightarrow \frac{4.2}{5.6} = \frac{1.68}{2.24}$ Write the equation

$\Rightarrow 4.2(2.24) = 1.68(5.6)$ Using cross product

$\Rightarrow 9.408 = 9.408$ Simplify

Yes.

Answer 15PA.

The ratios given are $\frac{21.1}{14.4}, \frac{1.1}{1.2}$

$\Rightarrow \frac{21.1}{14.4} = \frac{1.1}{1.2}$ Write the equation

$\Rightarrow 21.1(1.2) = 1.1(14.4)$ Using cross product

$\Rightarrow 25.32 \neq 15.84$ Simplify

No.

Answer 16PA.

The ratios given are $\frac{5}{2}, \frac{4}{1.6}$

$\Rightarrow \frac{5}{2} = \frac{4}{1.6}$ Write the equation

$\Rightarrow 5(1.6) = 4(2)$ Using cross product

$\Rightarrow 8 = 8$ Simplify

Yes.

Answer 17PA.

The total no. of gold medals won by all seven countries is

$871 + 498 + 374 + 180 + 188 + 179 + 136 = 2426$

The ratio of number of gold medals won by to the total of medals is $\frac{871}{2426}$

The ratio of number of gold medals won by to the total of medals is $\frac{498}{2426}$

The ratio of number of gold medals won by to the total of medals is $\frac{374}{2426}$

The ratio of number of gold medals won by to the total of medals is $\frac{180}{2426}$

The ratio of number of gold medals won by to the total of medals is $\frac{188}{2426}$

The ratio of number of gold medals won by to the total of medals is $\frac{179}{2426}$

The ratio of number of gold medals won by to the total of medals is $\frac{136}{2426}$.

Answer 19PA.

The given proportion is $\frac{4}{x}=\frac{2}{10}$

$\Rightarrow \frac{4}{x}=\frac{2}{10}$ Original Equation

$\Rightarrow 4(10)=2(x)$ Using cross product

$\Rightarrow 40=2x$ Simplify

$\Rightarrow \frac{40}{2}=\frac{2x}{2}$ Divide each side by 2

$\Rightarrow 20=x$

The value of x is 20.

Answer 20PA.

The given proportion is $\frac{1}{y}=\frac{3}{15}$

$\Rightarrow \frac{1}{y}=\frac{3}{15}$ Original Equation

$\Rightarrow 1(15)=3(y)$ Using cross product

$\Rightarrow 15=3y$ Simplify

$\Rightarrow \frac{15}{3}=\frac{3y}{3}$ Divide each side with 3

$\Rightarrow 5=y$

The value of y is 5.

Answer 21PA.

The given proportion is $\frac{6}{5}=\frac{x}{15}$

$\Rightarrow \frac{6}{5}=\frac{x}{15}$ Original Equation

$\Rightarrow 6(15)=5(x)$ Using cross product

$\Rightarrow 90=5x$ Simplify

$\Rightarrow \frac{90}{5}=\frac{5x}{5}$ Divide with 5 on each side

$\Rightarrow 18=x$

The value of x is $\boxed{18.}$

Answer 22PA.

The given proportion is $\frac{20}{28}=\frac{n}{21}$

$\Rightarrow \frac{20}{28}=\frac{n}{21}$ Original Equation

$\Rightarrow 20(21)=28(n)$ Using cross product

$\Rightarrow 420=28n$ Simplify

$\Rightarrow \frac{420}{28}=\frac{28n}{28}$ Divide with 28 on each side

$\Rightarrow 52.5=n$

The value of n is $\boxed{52.5}$.

Answer 23PA.

The given proportion is $\frac{6}{8}=\frac{7}{a}$

$\Rightarrow \frac{6}{8}=\frac{7}{a}$ Original Equation

$\Rightarrow 6(a)=7(8)$ Using cross product

$\Rightarrow 6a=56$ Simplify

$\Rightarrow \frac{6a}{6}=\frac{56}{6}$ Divide with 6 on each side

$\Rightarrow a=9.333$

The value of a is rounded to nearest hundred is $\boxed{9.33}$.

Answer 24PA.

The given proportion is $\frac{16}{7}=\frac{9}{b}$

$\Rightarrow \frac{16}{7}=\frac{9}{b}$ Original Equation

$\Rightarrow 16(b)=9(7)$ Using cross product

$\Rightarrow 16b=63$ Simplify

$\Rightarrow \frac{16b}{16}=\frac{63}{16}$ Divide with 16 on each side

$\Rightarrow b=3.937$

The value of b is rounded to nearest hundred is $\boxed{3.94}$.

Answer 25PA.

The given proportion is $\frac{1}{0.19}=\frac{12}{n}$

$\Rightarrow \frac{1}{0.19}=\frac{12}{n}$ Original Equation

$\Rightarrow 1(n)=12(0.19)$ Using cross product

$\Rightarrow n=2.28$ Simplify

The value of n is $\boxed{2.28}$.

Answer 26PA.

The given proportion is $\frac{2}{0.21}=\frac{8}{n}$

$\Rightarrow \frac{2}{0.21}=\frac{8}{n}$ Original Equation

$\Rightarrow 2(n)=8(0.21)$ Using cross product

$\Rightarrow 2n=1.68$ Simplify

$\Rightarrow \frac{2n}{2}=\frac{1.68}{2}$

$\Rightarrow n=0.84$

The value of n is $\boxed{0.84}$.

Answer 27PA.

The given proportion is $\frac{2.405}{3.67}=\frac{s}{1.88}$

$\Rightarrow \frac{2.405}{3.67}=\frac{s}{1.88}$ Original Equation

$\Rightarrow 2.405(1.88)=3.67(s)$ Using cross product

$\Rightarrow 4.5214=3.67s$ Simplify

$\Rightarrow \frac{4.5214}{3.67}=\frac{3.67s}{3.67}$ Divide with 3.67 on each side

$\Rightarrow s=1.231$

The value of s is $\boxed{1.231}$.

Answer 28PA.

The given proportion is $\frac{7}{1.066}=\frac{z}{9.65}$

$\Rightarrow \frac{7}{1.066}=\frac{z}{9.65}$ Original Equation

$\Rightarrow 7(9.65)=1.066z$ Using cross product

$\Rightarrow 67.55=1.066z$ Simplify

$\Rightarrow \frac{67.55}{1.066}=\frac{1.066z}{1.066}$ Divide with 1.066 on each side

$\Rightarrow z=3.367$

The value of z rounding to the nearest hundred is $\boxed{3.37}$.

Answer 29PA.

The given proportion is $\frac{6}{14}=\frac{7}{x-3}$

$\Rightarrow \frac{6}{14}=\frac{7}{x-3}$ Original Equation

$\Rightarrow 6(x-3)=7(14)$ Using cross product

$\Rightarrow 6x-18=98$ Distributive property

$\Rightarrow 6x-18+18=98+18$ Adding 18 on each side

$\Rightarrow 6x=116$ Simplify

$\Rightarrow \frac{6x}{6}=\frac{116}{6}$ Divide with 6 on each side

$\Rightarrow x=9.333$

The value of x rounding to the nearest hundred is $\boxed{9.33}$.

Answer 30PA.

The given proportion is $\frac{5}{3}=\frac{6}{x+2}$

$\Rightarrow \frac{5}{3}=\frac{6}{x+2}$ Original Equation

$\Rightarrow 5(x+2)=6(3)$ Using cross product

$\Rightarrow 5x+10=18$ Distributive property

$\Rightarrow 5x+10-10=18-10$ subtract 10 on each side

$\Rightarrow 5x=8$ Simplify

$\Rightarrow \frac{5x}{5}=\frac{8}{5}$ Divide with 5 on each side

$\Rightarrow x=1.6$

The value of x is $\boxed{1.6}$.

Answer 31PA.

Explore: Let 'm' represent no. of days. Seth will take to earn $ 532.

Plan : Write a proportion for the problem.

Days 4 m

Amount 152 532

Solve : $\frac{4}{152}=\frac{m}{532}$ original proportion

$\Rightarrow 4(532)=152(m)$ Using cross product

$\Rightarrow 2128=152m$ Simplify

$\Rightarrow \frac{2128}{152}=\frac{152m}{152}$ Divide with 152 on each side

$\Rightarrow 14=m$ Simplify

The time taken for Seth to earn $ 512 is 14 days.

Answer 32PA.

Explore: Let 'm' represent the time taken to drive the addition 93 miles.

Plan : Write a proportion for the problem.

Time m 4

Distance 93 248

Solve : $\frac{m}{93}=\frac{4}{248}$ original proportion

$\Rightarrow m(248)=4(93)$ Using cross product

$\Rightarrow 248m=372$ Simplify

$\Rightarrow \frac{248m}{248}=\frac{372}{248}$ Divide with 248 on each side

$\Rightarrow m=1.5$

The time taken to drive additional 93 miles is 1.5hrs.

Answer 33PA.

Explore: Let 'm' represent the length of the wall in blue print.

Plan : Write a proportion for the problem.

Length m 2.5

Feet 93 248

Solve : $\frac{m}{12}=\frac{2.5}{10}$ original proportion

$\Rightarrow m(10)=2.5(12)$ Using cross product

$\Rightarrow 10m=30$ Simplify

$\Rightarrow \frac{10m}{10}=\frac{30}{10}$ Divide with 10 on each side

$\Rightarrow m=3$

The length of the 12 feet wall in blue print is 3 inches.

Answer 34PA.

Explore: Let 'm' represent the height of the actual car in feet.

Plan : Write a proportion for the problem.

Inch 1 $\frac{2}{3}$

Feet $6\frac{1}{4}$ m

Solve : $\frac{m}{\frac{2}{3}} = \frac{1}{6\frac{1}{4}}$ original proportion

$\Rightarrow m\left(\frac{3}{2}\right) = \frac{1}{\frac{25}{4}}$ Simplify

$\Rightarrow \frac{3m}{2} = 1 \times \frac{4}{25}$ Simplify

$\Rightarrow \frac{3m}{2} = \frac{4}{25}$

$\Rightarrow 3m(25) = 4(2)$ Using cross product

$\Rightarrow 75m = 8$ Simplify

$\Rightarrow \frac{75m}{75} = \frac{8}{75}$ Divide with 75 on each side

$\Rightarrow m = 0.106$ Simplify

The height of a car which is $\frac{2}{3}$ inches in feet is 0.106 feet.

Answer 35PA.

Explore: Let 'm' represent the number of pets bought from a breeder.

Plan : Write a proportion for the problem.

Breeder 3 m

Pets 20 122

Solve : $\frac{m}{122} = \frac{3}{20}$ original proportion

$\Rightarrow m(20) = 3(122)$ Using cross product

$\Rightarrow 20m = 366$ Simplify

$\Rightarrow \frac{20m}{20} = \frac{366}{20}$ Divide with 20 on each side

$\Rightarrow m = 18.3$

The number of pets got from a breeder out of 122 animals is 18 (approximately).

Answer 37PA.

The data given is for 2 eggs $\frac{3}{4}$ cup honey is needed.

Explore: Let 'm' represent the number of cups of honey for 3 eggs.

Plan : Write a proportion for the problem.

Eggs 2 3

Honey $\frac{3}{4}$ m

Solve : $\frac{\frac{3}{4}}{2}=\frac{m}{3}$ original proportion

$\Rightarrow \frac{3}{4}\times\frac{1}{2}=\frac{m}{3}$ Simplify

$\Rightarrow \frac{3}{8}=\frac{m}{3}$ Simplify

$\Rightarrow 3(3)=8(m)$ Using cross product

$\Rightarrow 9=8m$ Simplify

$\Rightarrow \frac{9}{8}=\frac{8m}{8}$ Divide with 8 on each side

$\Rightarrow m=1.125$

To use 3 eggs we need 1.125 cups of honey.

From the data given 4 servings of honey frozen yogurt requires.

2 cups milk

2 eggs beaten

$\frac{3}{4}$ cup honey

2 cups plain low fat

1 dash salt.

1 serving of honey frozen yogurt requires:

$\frac{2}{4}$ cups milk $=\frac{1}{2}$ cups milk

$\frac{2}{4}$ eggs beaten $=\frac{1}{2}$ eggs beaten

$\frac{\frac{3}{4}}{4}$ Cups honey $=\frac{3}{16}$ cups honey

$\frac{2}{4}$ cups plain low fat $=\frac{1}{2}$ cups plain low fat

$\frac{1}{4}$ dash salt $=\frac{1}{4}$ dash salt

5 servings of honey frozen yogurt requires.

$5\left(\frac{1}{2}\right)$ cups milk $=\frac{5}{2}$ cups milk

$5\left(\frac{1}{2}\right)$eggs beaten $=\frac{5}{2}$ eggs beaten

$5\left(\frac{3}{16}\right)$Cups honey $=\frac{5}{16}$ cups honey

$5\left(\frac{1}{2}\right)$ cups plain low fat $= \frac{5}{2}$ cups plain low fat

$5\left(\frac{1}{4}\right)$ dash salt $= \frac{5}{4}$ dash salt

Answer 38PA.

The given ratio is $\frac{9}{12}$.

Write the equation $\frac{9}{12} = \frac{18}{24}$

$\Rightarrow 9(24) = 12(18)$ Using cross product

$\Rightarrow 216 = 216$

The given ratio is $\frac{9}{12}$ is equal to $\frac{18}{24}$.

Answer 39PA.

The given data is $\frac{x}{y} = \frac{2}{3}$ and $\frac{y}{z} = \frac{3}{5}$

$\Rightarrow 2y = 3x$ (i) Using cross product

$\Rightarrow 3z = 5y$ (ii) Using cross product

$\Rightarrow 2y = 3(10)$ Substitute 10 for x

$\Rightarrow 2y = 30$ Simplify

$\Rightarrow \frac{2y}{2} = \frac{30}{2}$ Divide with 2 on each side

$\Rightarrow y = 15$ Simplify

Now $3z = 5y$ by (ii)

$\Rightarrow 3z = 5(15)$ Substitute 15 for y.

$\Rightarrow 3z = 75$ Simplify

$\Rightarrow \frac{3z}{3} = \frac{75}{3}$ Divide with 3 on each side

$\Rightarrow z = 25$

The value of z is $\boxed{25}$.

Answer 40MYS.

The given equation is $8y-10=-3y+2$

$\Rightarrow 8y-10+3y=-3y+2+3y$ Adding 3y on each side

$\Rightarrow 11y-10=2$ Simplify

$\Rightarrow 11y-10+10=2+10$ Adding 10 on each side

$\Rightarrow 11y=12$ Simplify

$\Rightarrow \frac{11y}{11}=\frac{12}{11}$ Divide with 11 on each side

$\Rightarrow y=\frac{12}{11}$

CHECK

$8y-10=-3y+2$ Original Equation

$\Rightarrow 8\left(\frac{12}{11}\right)-10=-3\left(\frac{12}{11}\right)+2$ Substitute $\frac{12}{11}$ for y.

$\Rightarrow \frac{132}{11}-10=\frac{-36}{11}+2$ Simplify

$\Rightarrow \frac{132-110}{11}=\frac{-36+22}{11}$ Simplify

$\Rightarrow \frac{22}{11}=\frac{-14}{11}$ This statement is false

The equation has no solution.

Answer 41MYS.

The given equation is $17+2n=21+2n$

$\Rightarrow 17+2n=21+2n$ Original equation

$\Rightarrow 17+2n-2n=21+2n-2n$ Subtracting 2n on each side

$\Rightarrow 17=21$ This statement is false

Since $17=21$ is a false statement.

This equation has no solution.

Answer 42MYS.

The given equation is $-7(d-3)=-4$

$\Rightarrow -7d+21=-4$ Distributive property

$\Rightarrow -7d+21-21=-4-21$ Subtracting 21 on each side

$\Rightarrow -7d=-25$ Simplify

$\Rightarrow \frac{-7d}{-7}=\frac{-25}{-7}$ Divide with -7 on each side

$\Rightarrow d=\frac{25}{7}$

CHECK

$-7(d-3)=-4$ Original equation

$\Rightarrow -7\left(\frac{25}{7}-3\right)=-4$ Substitute $\frac{25}{7}$ for d

$\Rightarrow -7\left(\frac{25-21}{7}\right)=-4$ Simplify

$\Rightarrow -7\left(\frac{4}{7}\right)=-4$ Simplify

$\Rightarrow -4=-4$

The solution is $\frac{25}{7}$.

Answer 43MYS.

The given equation is $5-9w=23$

$\Rightarrow 5-9w=23$ Original equation

$\Rightarrow 5-9w-5=23-5$ Subtract 5 on each side

$\Rightarrow -9w=18$ Simplify

$\Rightarrow \frac{-9w}{-9}=\frac{18}{-9}$ Divide with -9 on each side

$\Rightarrow w=-2$ Simplify

CHECK

$5-9w=23$ Original equation

$\Rightarrow 5-9(-2)$ Substitute -2 for w

$\Rightarrow 5+18=23$ Simplify

$\Rightarrow 23=23$

The solution is $\boxed{-2}$.

Answer 44MYS.

The given equation is $\frac{m}{-5}+6=31$

$\Rightarrow \frac{m+6(-5)}{-5}=31$ Simplify

$\Rightarrow \frac{m-30}{-5}=31$

$\Rightarrow m-30=31(-5)$ Simplify

$\Rightarrow m-30=-155$ Simplify

$\Rightarrow m-30+30=-155+30$ Add 30 on each side

$\Rightarrow m=-125$

CHECK

$\frac{m}{-5}+6=31$ Original equation

$\Rightarrow 5-9(-2)$ Substitute -125 for m

$\Rightarrow \frac{-125}{-5}+6=31$ Simplify

$\Rightarrow 25+6=31$ Simplify

$\Rightarrow 31=31$

The solution is $\boxed{-125}$.

Answer 44MYS.

The given equation is $\frac{z-7}{5}=-3$

$\Rightarrow z-7=5(-3)$ Simplify

$\Rightarrow z-7=-15$ Simplify

$\Rightarrow z-7+7=-15+7$ Add 7 on each side

$\Rightarrow z=-8$ Simplify

CHECK

$\frac{z-7}{5}=-3$ Original equation

$\Rightarrow \frac{-8-7}{5}=-3$ Substitute -8 for z

$\Rightarrow \frac{-15}{5}=-3$ Simplify

$\Rightarrow -3=-3$

The solution is $\boxed{-8}$.

Answer 46mys.

The numbers given are -7,-6.

Since both numbers are negative their product is positive.

$$\begin{aligned}(-7)(-6) &= -(7(-6)) \\ &= -(-(7(6))) \\ &= -(-(42)) \\ &= 42\end{aligned}$$

The product is 42.

Answer 47MYS.

The numbers given are $\frac{-8}{9}, \frac{9}{8}$.

Since one number is positive and the other is negative product is negative.

$$\left(\frac{-8}{9}\right)\left(\frac{9}{8}\right)$$

$$\Rightarrow -\left(\frac{8(9)}{9(8)}\right) \quad \text{Simplify}$$

$$\Rightarrow -\left(\frac{72}{72}\right) \quad \text{Multiply}$$

$$\Rightarrow -1$$

The product is $\boxed{-1}$.

Answer 48MYS.

The numbers given are $\frac{3}{7}, \frac{3}{7}$.

Since both numbers are positive the product is positive.

$$\left(\frac{3}{7}\right)\left(\frac{3}{7}\right)$$

$$\Rightarrow \left(\frac{3(3)}{7(7)}\right) \quad \text{Simplify}$$

$$\Rightarrow \left(\frac{9}{49}\right) \quad \text{Multiply}$$

The product is $\frac{9}{49}$.

Answer 49MYS.

The numbers given are $-0.075, -5.5$.

Since both numbers are negative the product is positive.

$$(-0.075)(-5.5)$$
$$\Rightarrow -(0.075(-5.5))$$
$$\Rightarrow -(-(0.075(5.5)))$$
$$\Rightarrow 0.4125$$

The product is 0.4125 .

Answer 50MYS.

The absolute value of a number is how far is the number from zero.

The number -33 is 33 units away from zero.

So $|-33| = 33$

Answer 51MYS.

The absolute value of a number is how far is the number from zero.

The number 77 is 77 units away from zero.

So $|77| = 77$.

Answer 52MYS.

The absolute value of a number is how far is the number from zero.

The number 2.5 is 2.5 units away from zero.

So $|2.5| = 2.5$.

Answer 53MYS.

The absolute value of a number is how far is the number from zero.

The number -0.85 is 0.85 units away from zero.

So $|-0.85| = 0.85$.

Answer 55MYS.

Analysis : The problem contains two numbers from the proportion

The percent is the unknown quantity in this problem.

Identity : The phrase what percent tells us that percent is the unknown quantity.

The unknown quantity will be represented by *x* in our proportion.

Substitute : Now we can substitute these values into our proportion.

$$\frac{part}{whole}=\frac{percent}{100}\ becomes\ \frac{18}{60}=\frac{x}{100}$$

Solve : Cross multiply we get $60x=1800$

Divide both sides with 60 we get $\frac{60x}{60}=\frac{1800}{60}$

$x=30$

Solution : 18 is 30% of 60.

Answer 56MYS.

Analysis : The problem contains two numbers from the proportion

The percent is the unknown quantity in this problem.

Identity : The phrase what percent tells us that percent is the unknown quantity.

The unknown quantity will be represented by *x* in our proportion.

Substitute :Now we can substitute these values into our proportion.

$$\frac{part}{whole}=\frac{percent}{100}\ becomes\ \frac{4.34}{14}=\frac{x}{100}$$

Solve : Cross multiply we get $4.34(100)=14x$

$\Rightarrow 4.34=14x$

Divide both sides with 14 we get $\frac{14x}{14}=\frac{434}{14}$

$\Rightarrow x=31$

Solution : 4.34 is 31% of 14.

Answer 57MYS.

Analysis : The problem contains two numbers from the proportion

The percent is the unknown quantity in this problem.

Identity : The phrase what percent tells us that percent is the unknown quantity.

The unknown quantity will be represented by *x* in our proportion.

Substitute :Now we can substitute these values into our proportion.

$$\frac{part}{whole} = \frac{percent}{100} \; becomes \; \frac{6}{15} = \frac{x}{100}$$

Solve : Cross multiply we get $600 = 15x$

Divide both sides with 15 we get $\frac{600}{15} = \frac{15x}{15}$

$$\Rightarrow x = 40$$

Solution : six is 40% of 15.

Answer 58MYS..

Analysis : The problem contains two numbers from the proportion

The percent is the unknown quantity in this problem.

Identity : The phrase what percent tells us that percent is the unknown quantity.

The unknown quantity will be represented by *x* in our proportion.

Substitute :Now we can substitute these values into our proportion.

$$\frac{part}{whole} = \frac{percent}{100} \; becomes \; \frac{8}{2} = \frac{x}{100}$$

Solve : Cross multiply we get $800 = 2x$

Divide both sides with 2 we get $\frac{800}{2} = \frac{2x}{2}$

$$\Rightarrow x = 400$$

Solution : 8 is 400% of 2.