

1.  
2.  $\frac{54 + x}{2} = 9 \cdot 2$   
 $54 + x = 18$   
 $-54 \quad -54$   
 $x = -36$

2.  $-22 = -5 + \frac{x}{2}$   
 $+5 \quad +5$   
2.  $-17 = \frac{x}{2} \cdot 2$   
 $-34 = x$

3. Chris has \$89.94, and he wants to order some DVD's on-line that each cost \$15.99. The total cost of shipping is \$9.99. What is the solution set for how many DVDs Chris can buy?  
 $15.99x + 9.99 \leq 89.94$   
 $-9.99 \quad -9.99$   
 $15.99x \leq 79.95$   
 $\frac{15.99x}{15.99} \leq \frac{79.95}{15.99}$   
 $x \leq 5 \text{ DVD's}$

4. Graph the solution set  
 $-(k - 5) \leq -22$   
 $-k + 5 \leq -22$   
 $-5 \quad -5$   
 $-k \leq -27$   
 $-1 \quad -1$   
 $k \geq 27$

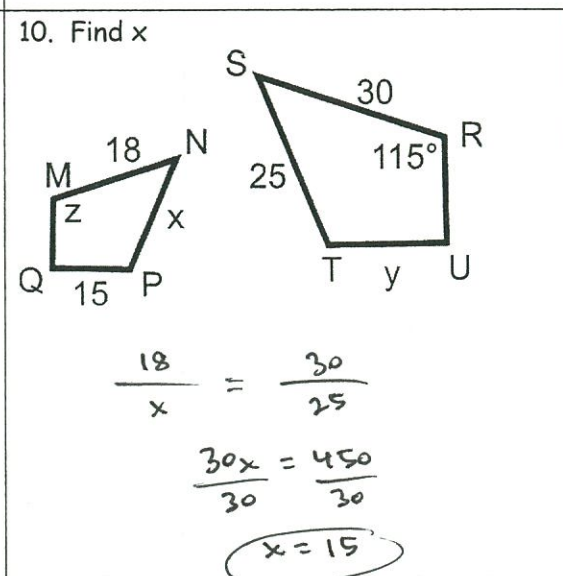
5. Solve  
 $3(4 - 6x) - 7 < 41$   
 $12 - 18x - 7 < 41$   
 $-18x + 5 < 41$   
 $-5 \quad -5$   
 $-18x < 36$   
 $-18 \quad -18$   
 $x > -2$

6. Find the distance between Raleigh and Detroit if they are 43 cm apart on a map with a scale of 3 cm : 160 miles. (round to the nearest tenth)  
 $\frac{3}{160} = \frac{43}{x}$   
 $\frac{3x}{3} = \frac{6880}{3}$   
 $2293.3 \text{ mi}$

7. The sporting goods store has a sale in which all soccer balls are 25% off the retail price. What is the sale price of a ball that has a retail price of \$29?  
 $\frac{x}{29} = \frac{75}{100}$   
 $\frac{100x}{100} = \frac{2175}{100}$   
 $\$21.75$

8. A house has a value of \$150,000. After renovations, it now has a value of \$175,000. What is the percent of change in the value of the house?  
 $\frac{175000 - 150000}{150000} \times 100 =$   
 $16.6\% \text{ increase}$

9. It takes a machine 21 minutes to fill 300 bottles. How long will it take the machine to fill 700 bottles?  
 $\frac{21}{300} = \frac{x}{700}$   
 $\frac{300x}{300} = \frac{14700}{300}$   
 $x = 49 \text{ bottles}$



Answers

1) -36

2) -34

3)  $x \leq 5 \text{ DVD's}$

4)  $k \geq 27$

5)  $x > -2$

6) 2293.3 mi

7) \$21.75

8) 16.6% increase

9) 49 bottles

10) 15