

Solve the following for x . Show your work.

1) $2(x - 4) = 1 - (x + 3)$

2) $\frac{6x}{5} = \frac{3x + 3}{2}$

3) $\frac{2}{3}(9 - 6x) = 2x + 4$

4) $Ax + B = C$

5) $5(6 - 4x) = 10(-2x + 3)$

6) $\frac{2x + 3}{2} = \frac{3x - 1}{3}$

7) $5x - 3(4 - x) = 8 - (x - 10)$

8) $5 - x = 32$

9) Evaluate the following expressions.

a) $\frac{12x - 3y}{x + y}$ when $x = 4$, $y = -6$

a) _____

b) $-x - |-x|$ when $x = -5$

b) _____

#9 continued

c) $-2x^2 - 4x$, when $x = -3$

c) _____

10) Simplify the following expressions.

a) $5x(7 - 3x) - 6(4x^2 - 8x)$

b) $-2[-3(4 - 13) - 2(6 - 17)]$

c) $-4x(2 - x) + 3x^2 - 5x$

d) $18 - \frac{-2(2 - 9 \cdot 4)}{6 - 8}$

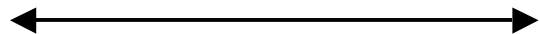
e) $10 + 2(3^2 - 5 + 2)$

f) $\frac{12 \div 4 + 5}{8 - (10 - 6)}$

11) Solve and graph the solution set for each of the following.

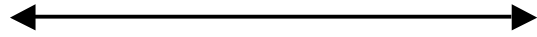
a) $11 - 5x < x - 7$

b) $-6 \leq 5 - 2(4 - 3x) < 15$



#11 continued

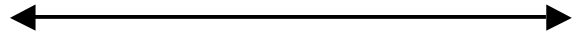
c) $34 < 9 - 5y$ or $4y - 3 > 13$



d) $7 < 2 - (4 - 3x) < 22$



e) $5 - 4x \leq -15$ or $8x - 4 < 2x + 14$



12) Michael decided to participate in a Twinkie eating contest. Michael was able to eat 38 Twinkies in 6 minutes. What was his average number of Twinkies per minute?

13) While on a road trip with your family, you notice that you average 40 miles every 30 minutes. At this rate, how far will you travel in two and a half hours?

14) Show work to answer each of the following.

a) 24 is 20% of what number?

a) _____

b) 30 is what percent of 120?

b) _____

c) What number is 35% of 80?

c) _____

- 15) Angelina runs a shoe store. If she can buy a pair of shoes for \$24, how much should she charge to have a profit margin of 65%?
- 16) A sweater is on sale for 20% off. It costs \$32. What was the original price?
- 17) Find the simple interest paid over 8 months on a \$8,400 loan borrowed at 3.5%.

Answers:

1) $x = 2$

2) $x = -5$

3) $x = \frac{1}{3}$

4) $x = \frac{C - B}{A}$

5) \mathbb{R}

6) no solution

7) $x = 3\frac{1}{3}$

8) $x = -27$

9) a) -33 b) 0 c) -6

10) a) $-39x^2 + 83x$ b) -98

c) $7x^2 - 13x$ d) 52

e) 22 f) 2

11) a) $x > 3$ b) $-\frac{1}{2} \leq x < 3$

c) $y < -5$ or $y > 4$ d) $3 < x < 8$

e) $x > 5$ or $x < 3$

12) $6\frac{1}{3}$ Twinkies per minute

13) 200 miles

14) a) 120 b) 25% c) 28

15) \$39.60

16) \$40

17) \$196

