

Evaluate each:

1) $-64 \div 4^2 \cdot 2 + (-2)^3$

2) $4 - 6[7^2 - 8(2 + 5)]$

3) $4x + 3y^2$ for $x = -2$ and $y = -1$

4) $(x - 4y)^2$ for $x = 5$ and $y = 2$

5) Simplify: $-6(3 - 4x) - (x + 5)$

6) Simplify: $\frac{1}{2}(8x - 6) - 6x - 5$

Solve each:

7) $5 - 3x = 11$

8) $-6n + 14 = -10$

9) $-\frac{2x}{3} + 1 = \frac{5}{9}$

10) $\frac{x}{4} - \frac{x}{3} = -\frac{1}{2}$

11) $-2(3n - 2) = 2$

12) $3y + 36 = 6 + 6y$

13) $5m - 3(m + 1) = 2(m + 1) - 5$

14) $-3(5 - 3x) = 6x + 6$

15) $1.6z - 4 = 2(z - 1) - 0.4z$

16) Solve for W: $P = 2L + 2W$

17) Solve for B: $V = \frac{1}{3}BH$

Solve each word problem:

18) Nine more than a twice a number is 43. Find the number.

19) 15 is what percent of 75?

20) The sales tax in Ohio is 6%. The total cost of purchasing a golf club including tax is \$76.85. What was the cost of the golf club before tax?

21) A 76-inch ribbon is to be cut into three pieces. The longest piece is to be 24 inches longer than the shortest piece, and the third piece is to be half of the length of the longest piece. Find the length of each piece of ribbon.

22) Two cars start at the same time and travel 4 hours in opposite directions. One car travels 20 mph faster than the other car. How fast are the cars traveling if they end up 400 miles apart?

23) Suzy's 45-mile drive to work took a total of 1.5 hours. Part of the trip was driven at 60 mph, due to an accident the rest of the trip was driven at 15 mph. How long was spent driving at each speed?

Graph each on a number line:

24) $x \geq -5$

25) $x < 3$

Solve each inequality and express the solution in interval notation, then graph the solution on a number line.

26) $12 - 2x \geq 6$

27) $8x + 6 > 2x - 42$

Answers:

1) -16

2) 46

3) -5

4) 9

5) $23x - 23$

6) $-2x - 8$

7) -2

8) 4

9) $\frac{2}{3}$

10) 6

11) $\frac{1}{3}$

12) 10

13) all solutions

14) 7

15) no solution

16) $W = \frac{P - 2L}{2}$

17) $B = \frac{3V}{H}$

18) the number is 17

19) 20%

20) original cost \$72.50

21) Shortest piece 16 in, longest 40 inches, other 20 inches.

22) 40 mph and 60 mph

23) 1hr.at 15mph & .5 hr. at 60mph

24) graph w/arrow to right

25) graph w/ arrow to left

26) $(-\infty, 3]$

27) $(-8, \infty)$