

## Math with Applications Algebra Test 1

Solve for  $x$ .

1)  $5(7x - 2) = 30$

2)  $6x + 22 - 3x = 12 + 8x + 10 - 5x$

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

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

5)  $\frac{17}{x} = \frac{7}{21}$

6)  $\frac{x+7}{10} = \frac{13}{12}$

Solve and graph on a number line.

7)  $5x - 7 \leq 8$

8)  $7 - 3x \leq 40$

Solve for  $x$  using the square root property.

$$9) 5x^2 + 4 = 29$$

$$10) 3x^2 - 7 = 209$$

$$11) (4x + 3)^2 = 48$$

$$12) (5x - 1)^2 = 25$$

Solve using the zero product principle.

$$13) (3x + 2)(5x - 4) = 0$$

$$14) 3x(4x - 1) = 0$$

Solve by factoring and using the zero product principle.

$$15) 4x^2 + 5x = 0$$

$$16) 6x^2 + 7x - 3 = 0$$

$$17) 25x^2 - 40x + 16 = 0$$

$$18) 25x^2 - 16 = 0$$

$$19) x^2 + 7x + 12 = 0$$

$$20) 12x^2 + 5x - 2 = 0$$