

Assignment #4

Solving a quadratic means state the roots. Factoring is the technique that will help you get them! You must get everything to 1 side when you are working with a quadratic.

Page 158 Factoring Assignment #4 Solve the following by factorization:

1) $8x^2+16x=0$

$$8x(x+2)=0$$

$$\boxed{x=0 \text{ and } -2}$$

2) $12x^2+3x=0$

$$3x(4x+1)=0$$

$$\boxed{x=0 \text{ and } x=-\frac{1}{4}}$$

3) $3x^2-21x=0$

$$3x(x-7)=0$$

$$\boxed{x=0 \text{ and } x=7}$$

4) $2x^2-10x=0$

$$2x(x-5)=0$$

$$\boxed{x=0 \text{ and } x=5}$$

5) $34x^2=20x$

$$34x^2-20x=0$$

$$x(34x-20)=0$$

$$\boxed{x=0 \text{ and } x=\frac{20}{34}}$$

6) $12x=15x^2$

$$15x^2-12x=0$$

$$3x(5x-4)=0$$

$$\boxed{x=0 \text{ and } \frac{4}{5}}$$

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

$$(x+8)(x-2)=0$$

$$\boxed{x=-8 \text{ and } x=2}$$

8) $x^2=2x+15$

$$x^2-2x-15=0$$

$$(x-5)(x+3)=0$$

$$\boxed{5 \text{ and } -3}$$

9) $x^2-28=3x$

$$x^2-3x-28=0$$

$$(x-7)(x+4)=0$$

$$\boxed{x=7 \text{ and } x=-4}$$

10) $50+x^2=-15x$

$$x^2+15x+50=0$$

$$(x+10)(x+5)=0$$

$$\boxed{x=-10 \text{ and } x=-5}$$

11) $x^2-x=72$

$$x^2-x-72=0$$

$$(x-9)(x+8)=0$$

$$\boxed{x=9 \text{ and } x=-8}$$

12) $x^2+8x=33$

$$x^2+8x-33=0$$

$$(x+11)(x-3)=0$$

$$\boxed{x=-11 \text{ and } x=3}$$

13) $9x^2-12x+4=0$

$$(3x-2)(3x-2)=0$$

$$\boxed{\frac{2}{3}}$$

14) $2x^2-13x-7=0$

$$(2x+1)(x-7)=0$$

$$\boxed{x=-\frac{1}{2} \text{ and } x=7}$$

Assignment #4

15) $2x^2 = -5x + 12$

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

$(2x - 3)(x + 4)$ Factored

$\frac{3}{2}$ and -4 Roots

16) $7x^2 + 26x = 8$

$7x^2 + 26x - 8 = 0$

$(7x - 2)(x + 4)$ Factored

$\frac{2}{7}$ and -4 Roots

17) $2x^2 - 32 = 0$

$2x^2 - 32 = 0$

$2(x^2 - 16) = 0$

$x^2 - 16 = 0$

$x = \pm 4$

18) $9x^2 - 14x - 8 = 0$

$(9x + 4)(x - 2)$

$3x$ $3x - 4$

$x = -\frac{4}{9}$ $x = 2$

19) $3x^2 = -x + 10$

$3x^2 + x - 10 = 0$

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

$x = \frac{5}{3}$ $x = -2$

Get everything to one side then Factor

20) $2x^2 - 10x = 12$

$2x^2 - 10x - 12 = 0$

$(2x + 2)(x - 6)$

$x = -1$ $x = 6$

* Get everything to one side then Factor

21) $4x^2 = 11x + 3$

$4x^2 - 11x - 3 = 0$

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

$-\frac{1}{4}$ 3

Get everything to one side

22) $12x^2 = 10x + 12$

$12x^2 - 10x - 12 = 0$

$(6x + 4)(2x - 3)$

$-\frac{2}{3}$ $\frac{3}{2}$

23) $7x^2 + 6x = 1$

$7x^2 + 6x - 1 = 0$

$(7x - 1)(x + 1)$

$x = \frac{1}{7}$ and -1

14) $15x^2 + 2x = 8$

$15x^2 + 2x - 8 = 0$