

Pg 346: 21-32

21) $2x^2 = 72$

$$x^2 = 36$$

$$x = \pm 6$$

22) $3x^2 + 2x - 4 = 0$

$$x = \frac{-2 \pm \sqrt{4 + 48}}{6} = \frac{-2 \pm \sqrt{52}}{6} = \frac{-2 \pm 2\sqrt{13}}{6} = \frac{-1 \pm \sqrt{13}}{3}$$

23) $5b^2 - 10 = 0$

$$5b^2 = 10$$

$$b^2 = 2$$

$$b = \pm \sqrt{2}$$

31) $15x^2 - 12x - 48 = 0$

$$5x^2 - 4x - 16 = 0$$

$$x = \frac{4 \pm \sqrt{16 + 320}}{10} = \frac{4 \pm \sqrt{336}}{10}$$

$$x = \frac{4 \pm 4\sqrt{21}}{10} = \frac{2 \pm 2\sqrt{21}}{5}$$

24) $3x^2 + 4x = 10$

$$3x^2 + 4x - 10 = 0$$

$$x = \frac{-4 \pm \sqrt{16 + 120}}{6} = \frac{-4 \pm \sqrt{136}}{6} = \frac{-4 \pm 2\sqrt{34}}{6} = \frac{-2 \pm \sqrt{34}}{3}$$

$$\begin{array}{r} 34 \\ 4 \overline{) 136} \\ \underline{12} \\ 16 \\ \underline{12} \\ 40 \\ \underline{36} \\ 4 \end{array}$$

25) $x^2 + 5x + 6 = 0$

$$x = -2, -3$$

26) $m^2 - 4m + 4 = 0$

$$m = 2$$

27) $d^2 - d - 6 = 0$

$$d = -2, 3$$

28) $13n^2 = 117$

$$n^2 = 9$$

$$n = \pm 3$$

29) $3s^2 - 4s - 2 = 0$

$$s = \frac{4 \pm \sqrt{16 + 24}}{6} = \frac{4 \pm \sqrt{40}}{6} = \frac{4 \pm 2\sqrt{10}}{6} = \frac{2 \pm \sqrt{10}}{3}$$

30) $5b^2 - 2b - 7 = 0$

$$x = \frac{2 \pm \sqrt{4 + 140}}{10} = \frac{2 \pm \sqrt{144}}{10} = \frac{2 \pm 12}{10} = \frac{14}{10} = \frac{7}{5}$$
$$\frac{-10}{10} = -1$$

32) $t^2 = \frac{81}{4}$

$$t = \pm \frac{9}{2}$$