

9-6 2, 4, 10, 12, 14, 16, 17-22

$$2. 2w^2 - 28w = -98$$

$$2w^2 - 28w + 98 = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$a=2, b=-28, c=98$$

$$\frac{-(-28) \pm \sqrt{(-28)^2 - 4(2)(98)}}{2(2)}$$

$$\frac{28 \pm \sqrt{784 - 784}}{4}$$

$$\frac{28 \pm \sqrt{0}}{4} = \boxed{7}$$

$$4. 2x^2 - 6x + 4 = 0$$

$$a=2, b=-6, c=4$$

$$\frac{-(-6) \pm \sqrt{(-6)^2 - 4(2)(4)}}{2(2)}$$

$$\frac{6 \pm \sqrt{36 - 32}}{2(2)}$$

$$\frac{6 \pm \sqrt{4}}{4}$$

$$\frac{6+2}{4} \text{ or } \frac{6-2}{4}$$

$$\frac{8}{4} \text{ or } \frac{4}{4}$$

$$\boxed{2 \text{ or } 1}$$

$$10. h^2 - 2h - 2 = 0$$

$$a=1, b=-2, c=-2$$

$$x = \frac{-(-2) \pm \sqrt{(-2)^2 - 4(1)(-2)}}{2(1)}$$

$$\frac{2 \pm \sqrt{4+8}}{2}$$

$$\frac{2 \pm \sqrt{12}}{2} = \frac{2 \pm 3.46}{2}$$

$$\frac{2+3.46}{2} \text{ or } \frac{2-3.46}{2}$$

$$\boxed{2.73 \text{ or } -.73}$$

$$12. -z^2 - 4z = -2$$

$$-z^2 - 4z + 2 = 0$$

$$a=-1, b=-4, c=2$$

$$\frac{-(-4) \pm \sqrt{(-4)^2 - 4(-1)(2)}}{2(-1)}$$

$$\frac{4 \pm \sqrt{16+8}}{-2}$$

$$\frac{4 \pm \sqrt{24}}{-2} = \frac{4 \pm 4.89}{-2}$$

$$\frac{4+4.89}{-2} \text{ or } \frac{4-4.89}{-2}$$

$$\boxed{-4.445 \text{ or } .445}$$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

* 14) $3n^2 + 10n = 5$

$$3n^2 + 10n - 5 = 0$$

$$a=3 \quad b=10 \quad c=-5$$

$$\frac{-10 \pm \sqrt{10^2 - 4(3)(-5)}}{2(3)}$$

$$\frac{-10 \pm \sqrt{100 + 60}}{6}$$

$$\frac{-10 \pm \sqrt{160}}{6}$$

$$\frac{-10 \pm 12.64}{6}$$

$$\frac{-10 + 12.64}{6} \quad \frac{-10 - 12.64}{6}$$

$$+0.44 \text{ or } -3.77$$

16 $-d^2 + 10d + 5$

$$a=-1 \quad b=10 \quad c=5$$

$$\frac{-10 \pm \sqrt{10^2 - 4(-1)(5)}}{2(-1)}$$

$$\frac{-10 \pm \sqrt{100 + 20}}{-2}$$

$$\frac{-10 \pm \sqrt{120}}{-2} = \frac{-10 \pm 10.95}{-2}$$

$$\frac{-10 + 10.95}{-2} \text{ or } \frac{-10 - 10.95}{-2}$$

$$\frac{.95}{-2} \quad \frac{-20.95}{-2}$$

$$-.475 \quad \approx 10.48$$

17. $h^2 + 4h + 7$

no solution for this

18. $d^2 - 4d - 12 = 0$

factoring is easiest

19. $24x^2 - 11y - 14 = 0$

quadratic formula

20. $2p^2 - 7p - 4 = 0$

factor

21. $4x^2 - 144 = 0$

use square roots

22. $f^2 - 2f - 35 = 0$

complete the square

9.6

24, 26, 29, 30, 31, 32,
36, 40, 41, 42

24 $X^2 - 8x + 7 = 0$

$b^2 - 4ac$

$a=1$ $b=-8$ $c=7$

$(-8)^2 - 4(1)(7)$

$64 - 28$

36 positive

two solutions

30. $5m^2 - 3m - 15$

$-b \pm \sqrt{b^2 - 4ac}$

$2a$

$a=5$ $b=-3$ $c=-15$

$-(-3) \pm \sqrt{(-3)^2 - 4(5)(-15)}$

$2(5)$

$3 \pm \sqrt{9 + 300}$

10

$3 \pm \sqrt{309}$

$3 \pm \frac{17.58}{10}$

10

10

$\frac{3 + 17.58}{10}$

or $\frac{3 - 17.58}{10}$

10

10

2.05

-1.458

26 $2x^2 - 5x + 16 = 0$

$b^2 - 4ac$

$a=2$ $b=-5$ $c=16$

$b^2 - 4ac$

$(-5)^2 - 4(2)(16)$

$25 - 64$

-39

neg \therefore no solution

29. $2x^2 + 4x + 2 = 0$

$b^2 - 4ac$

$a=2$ $b=4$ $c=2$

$(4)^2 - 4(2)(2)$

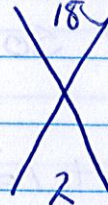
$16 - 16$

0 \therefore 1 solution

31.) $9y^2 + 6y = -12$

$9y^2 + 6y + 12 = 0$

$3(3y^2 + 2y + 6) = 0$



CANT FACTOR

EASILY

\therefore QUADRAT.

$a=9$ $b=6$ $c=12$

$-6 \pm \sqrt{6^2 - 4(9)(12)}$

$2(9)$

$-6 \pm \sqrt{36 - 432}$

DISCRIMINANT IS -

NO SOLUTION

$$32 \sqrt{4a^2} = \sqrt{36}$$

$$\frac{2a}{2} = \frac{6}{2}$$

$$a = \pm 3$$

$$36. x^2 + 11x - 10 = 0$$

$$b^2 - 4ac$$

$$a=1 \quad b=11 \quad c=-10$$

$$(11)^2 - 4(1)(-10)$$

$$121 + 40$$

$$161$$

+ \therefore Two solutions

$$40. 3x^2 + 6x + 3 = 0$$

$$b^2 - 4ac$$

$$a=3 \quad b=6 \quad c=3$$

$$6^2 - 4(3)(3)$$

$$36 - 36$$

0 \therefore 1 solution

$$41. 6x^2 + x + 12 = 0$$

$$b^2 - 4ac$$

$$a=6 \quad b=1 \quad c=12$$

$$1^2 - 4(6)(12)$$

$$1 - 288$$

-287 \therefore No REAL #
SOLUTION

$$42. -9^2 + 1209 - 28$$

$$-b \pm \sqrt{b^2 - 4ac}$$

$$2a$$

$$a=-1 \quad b=120 \quad c=-28$$

$$-120 \pm \sqrt{120^2 - 4(-1)(-28)}$$

$$2(-1)$$

$$-120 \pm \sqrt{14400 - 112}$$

$$-2$$

$$-120 \pm \sqrt{14288}$$

$$-2$$

$$-120 \pm 119.53$$

$$-2$$

$$-120 - 119.53 \quad \text{or} \quad -120 + 119.53$$

$$-2$$

$$-2$$

$$-239.53$$

$$\text{or} \quad -.47$$

$$-2$$

$$-2$$

$$119.76$$

$$\text{or} \quad .23$$

$$\approx 120$$