

Part 1

(25)  $0 = x^2 - 6x + 4$  Complete the square.

C  $-4 = x^2 - 6x + \underline{\quad}$

A  $9 - 4 = x^2 - 6x + \underline{9}$

B  $\left(\frac{-6}{2}\right)^2 = (-3)^2$

$\sqrt{5} = \sqrt{(x-3)^2}$

$\pm\sqrt{5} = x - 3$

$3 \pm \sqrt{5} = x$

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23.  $y = 2x + 1$  Parallel  $(5, -3)$

$m = 2$

$//m = 2$

$(\perp m = -\frac{1}{2})$

$y = mx + b$  or  $y - y_1 = m(x - x_1)$

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24.  $y = x^2 + 2x + 1$

$x = \frac{-b}{2a} = \frac{-2}{2(1)} = \frac{-2}{2}$

$x = -1$

$h = -1$

$y = (-1)^2 + 2(-1) + 1$

$y = 1 - 2 + 1$

$y = 0$

vertex form:

$y = a(x-h)^2 + k$

$y = 1(x+1)^2$

$v: (-1, 0)$

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(27)  $4x^3 - 100x = 0$

$4x(x^2 - 25) = 0$

$4x = 0 \quad x^2 - 25 = 0$

$x = 0 \quad x = \pm 5$

$x^4 - 16 = 0$

$(x^2 - 4)(x^2 + 4) = 0$

$x = \pm 2 \quad x = \pm 2i$

- ① What Do they have in Common!
- ② Factor
- ③ Perfect Cube  
± Perfect Cube  
(SOAP)
- ④ Doesn't Factor  
O Q F  
O C S.

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$$\textcircled{32} \quad x^2 + 9 = 0 \quad x^2 - 9 = 0$$

$$x^2 = -9 \quad (x-3)(x+3)$$

$$x = \pm\sqrt{-9}$$

$$x = \pm 3i$$

$$\frac{0 \pm \sqrt{0 - 4(1)(9)}}{2(1)}$$

$$\frac{0 \pm \sqrt{36}}{2}$$

$$\frac{\pm 6i}{2}$$

$$\textcircled{\pm 3i}$$

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$$\textcircled{26} \quad 6x^2 - 7x - 3 = 0$$

$$-\frac{9}{-9} \times \frac{2}{2} = -18$$

$$-\frac{9}{-9} + \frac{2}{2} = -7$$

$$(6x^2 - 9x)(x + 2x - 3) = 0$$

$$3x(2x - 3) + 1(2x - 3) = 0$$

$$(2x - 3)(3x + 1) = 0$$

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Part II

③  $\frac{1}{2}(4x+8) - \frac{1}{3}(6x-15)$

$2x+4 - 2x+5$

⑨

⑤  $x^2 + 12x + C$

⑦  $(\frac{12}{2})^2 = (6)^2$

⑧  $C=36$

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⑧  $28 = 7 | 4x-12 |$

$4 = | 4x-12 |$

$4x-12=4$  or  $4x-12=-4$

⑩  $| 2x-3 | \leq 7$   $\leq, <$  AND

a.  $x \leq 5$  b.  $-7 \leq x \leq 5$  c.  $-2 \leq x <$

$-7 < 2x-3 \leq 7$   $\left\{ \begin{array}{l} 2x-3 \leq 7 \text{ AND } 2x-3 \geq -7 \\ 2x \leq 10 \qquad 2x \geq -4 \\ x \leq 5 \text{ AND } x \geq -2 \end{array} \right.$

$-\frac{4}{2} \leq \frac{2x}{2} \leq \frac{10}{2}$

$\leftarrow \text{-----} \rightarrow$   
 $-2 \qquad 5$   
 $-2 \leq x \leq 5$

$\leftarrow \text{-----} \rightarrow$   
 $-2 \qquad 5$

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$$\textcircled{11} \quad 0.42 > \frac{3x-6}{2}$$

$$.84 > 3x-6$$

$$\frac{6.84}{3} > \frac{3x}{3}$$

$$2.28 > x$$

$$x < 2.28$$

$$\textcircled{13} \quad 5 + |x-9| \leq 0$$

$$|x-9| \leq -5$$

NO Solution!

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$$\textcircled{12} \quad b^2 - 4ac$$

$$\textcircled{+} \quad 2 \text{ Real}$$

$$\textcircled{-} \quad 2 \text{ Imag}$$

$$\textcircled{0} \quad 1 \text{ Real}$$

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$$\textcircled{24} (3 - \sqrt{2})(4 + 2\sqrt{2})$$

$$12 + 6\sqrt{2} - 4\sqrt{2} - 2(\sqrt{4}) \text{ FOIL}$$

$$12 + 2\sqrt{2} - 2(2)$$

$$8 + 2\sqrt{2}$$

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$$\textcircled{24} (5, -1) (-3, -2)$$

$$\frac{y_1 - y_2}{x_1 - x_2} = \frac{-1 - (-2)}{5 - (-3)} = \frac{1}{8}$$

$$y = mx + b \quad y + 1 = \frac{1}{8}(x - 5)$$

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$$\textcircled{37} \quad 2\sqrt{8} + \sqrt{50}$$

$$2\sqrt{4 \cdot 2} + \sqrt{25 \cdot 2}$$

$$2 \cdot 2\sqrt{2} + 5\sqrt{2}$$

$$4\sqrt{2} + 5\sqrt{2}$$

$$9\sqrt{2}$$

\* Get like radicals

\* Brake Down  
√

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