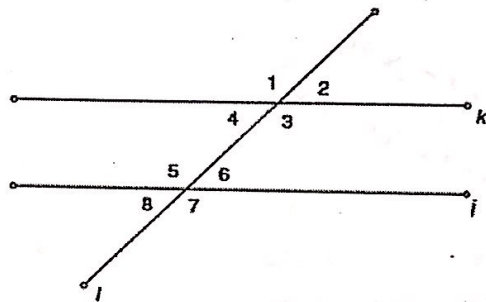


Performance Essay Hints

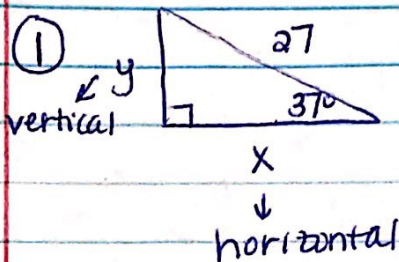
1. A ramp makes an incline of 37° with the ground. The length of the incline ramp is 27 inches. Find the horizontal length of the base of the ramp and the vertical height of the ramp.
2. Solve the following equation using the method of your choice. Make sure to review ALL methods of solving quadratics (square root method, factoring, completing the square, and quadratic formula.
3. Give an example of each of the following:

- a. Same-side interior angles
- b. Alternate interior angles
- c. Alternate exterior angles
- d. Corresponding angles
- e. Vertical angles
- f. Linear Pair



4. Graph the following function and label all of its parts (everything we've done in class!)
$$y = -(x - 3)^2 + 4$$

SOHCAHTOA



$$27 \cdot \cos 37 = \frac{x}{27} \cdot 27$$

$$x = 21.6 \text{ inches}$$

$$27 \cdot \sin 37 = \frac{y}{27} \cdot 27$$

$$y = 16.2 \text{ inches}$$

② sq rt method

$$y = -2(x-3)^2 + 4$$

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

$$-4 = -2(x-3)^2$$

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

$$\pm\sqrt{2} = x-3$$

$$x = 3 \pm \sqrt{2}$$

factoring

$$0 = x^2 + 4x - 21$$

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

$$x = -7, 3$$

CTS

$$0 = x^2 + 4x - 21$$

$$21 = x^2 + 4x$$

$$21 + 4 = x^2 + 4x + \frac{4}{(2)^2}$$

$$\sqrt{25} = \sqrt{(x+2)^2}$$

$$\pm 5 = x+2$$

$$x = -2 \pm 5$$

$$x = -7, 3$$

Quad Form

$$0 = x^2 + 4x + 21$$

$$x = \frac{-4 \pm \sqrt{4^2 - 4(1)(21)}}{2(1)}$$

$$\frac{-4 \pm \sqrt{16 + 84}}{2}$$

$$\frac{-4 \pm \sqrt{100}}{2}$$

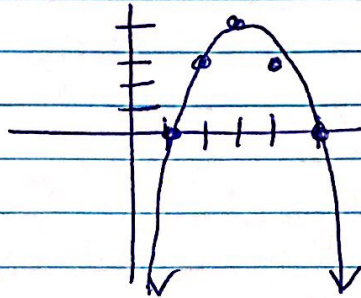
$$\frac{-4 \pm 10}{2}$$

$$x = -7, 3$$

- 3
- (a) $\angle 4, \angle 5$
 - (b) $\angle 4, \angle 6$
 - (c) $\angle 1, \angle 7$
 - (d) $\angle 2, \angle 6$
 - (e) $\angle 1, \angle 3$
 - (f) $\angle 1, \angle 2$

4) $y = -(x-3)^2 + 4$

x	y
1	0
2	3
3	4
4	3
5	0



Direction : down

vertex : $(3, 4)$

axis : $x = 3$

Dom : \mathbb{R}

Range : $\{y \mid y \leq 4\}$

x-int : $(1, 0)$ $(5, 0)$

y-int : $(0, -5)$

max @ 4

inc : $(-\infty, 3)$

dec : $(3, \infty)$

EB : as $x \rightarrow -\infty, f(x) \rightarrow -\infty$

as $x \rightarrow \infty, f(x) \rightarrow -\infty$

• reflection x-axis

• shift right 3

• shift up 4