CP Algebra 2

Name: _key_

Unit 5: Using the Calculator Worksheet

Date: _____ Block: _____

1. $f(x) = x^2 + 3x - 2$

AOS _X = -1.5_

Vertex _(-1.5, 4.25)_

Y-Intercept _(0, -2)_

X-Intercept(s) _(-3.56, 0)_
_(.56, 0)_

$f(5)$ _38_

2. $f(x) = -\frac{1}{4}(x + 2)^2 + 5$

AOS _X = -2_

Vertex _(-2, 5)_

Y-Intercept _(0, 4)_

X-Intercept(s) _(-6.47, 0)_
_(2.47, 0)_

$f(5)$ _-7.25_

3. $f(x) = x^2 + 3x - 2$

AOS _X = -1.5_

Vertex _(-1.5, 4.25)_

Y-Intercept _(0, -2)_

X-Intercept(s) _(-3.56, 0)_
_(.56, 0)_

$f(5)$ _38_

4. $f(x) - (x + 1)(x - 5)$

AOS _X = 2_

Vertex _(2, 9)_

Y-Intercept _(0, 5)_

X-Intercept(s) _(-1, 0)_
_(5, 0)_

$f(5)$ _0_

5. $f(x) = -3x^2 + 9x + 2$

AOS _X = 1.5)_

Vertex _(1.5, 8.75)_

Y-Intercept _(0, 2)_

X-Intercept(s) _(-.21, 0)_
_(3.21, 0)_

$f(5)$ _-28_

6. $f(x) = -2(x - 1)^2 - 5$

AOS _X = 1_

Vertex _(1, -5)_

Y-Intercept _(0, -7)_

X-Intercept(s) _N/A_

$f(5)$ _-37_

7. $f(x) = 0.5x^2 + 0.8x - 2$

AOS _X = -.80_

Vertex _(-.80, -2.32)_

Y-Intercept _(0, -2)_

X-Intercept(s) _(-2.95, 0)_
_(1.35, 0)_

$f(5)$ _14.5_

8. $f(x) = \frac{1}{2}(x - 3)^2 + 2$

AOS _X = 3_

Vertex _(3, 2)_

Y-Intercept _(0, 6.5)_

X-Intercept(s) _N/A_

$f(5)$ _4_

9. $f(x) = x^2 - 6x + 4$

AOS _X = 3)_

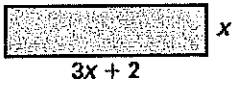Vertex _(3, -5)_

Y-Intercept _(0, 4)_

X-Intercept(s) _(0.76, 0)_
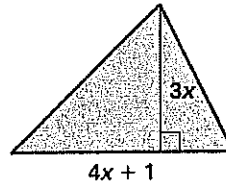_(5.24, 0)_

$f(5)$ _-1_

10. *Solve for x.*

Area of the rectangle = 16

x

3x + 2

Y. X = 2

11. *Solve for x.*

Area of the triangle = 27

3x

4x + 1

X = 2

12. The community playground has a hopscotch pad that is 8 feet longer than it is wide. The total area of the pad is 48 square feet. What are the dimensions of the hopscotch pad?

48   X

X + 8

4 ft × 12 ft

13. Jenna's rectangular garden is 6 meters long by 4 meters wide. She plans to double the area of the garden by increasing each side by the same amount. Find the number of meters by which dimension must be increased.

48   4 + X

6 + X

2 meters

14. Each year a school's booster club holds a dance to raise funds. In the past, the profit the club make after paying for the band and other costs has been modeled by the function $P(t) = -16t^2 + 800t - 4000$, where t represents the ticket prince in dollars.

    a. What ticket price give the maximum profit? $ 25

    b. What is the maximum profit? $ 6000

    c. What ticket price(s) would generate a profit of $5424 $19 or $31

15. A manufacturer of tennis balls has a daily cost of $C(x) = 200 - 10x + 0.01x^2$ where C is the total cost in dollars and x is the number of tennis balls produced. What number of tennis balls will produce the minimum?

500 tennis balls

16. Your company uses the quadratic model $y = -4.5x^2 + 150x$ to represent the average number of new customers who will be sighed on x weeks after the release of your new service. How many new customers can you expect in 8 weeks?

new customers

912