1.
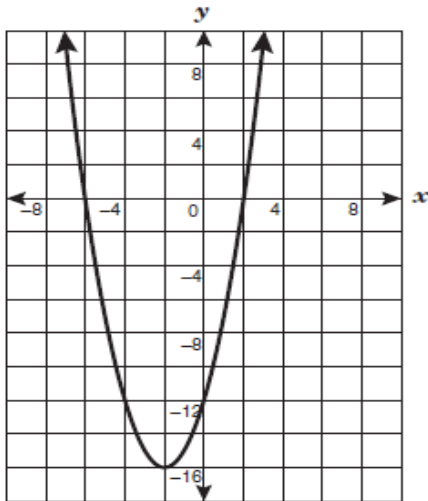
Which of the following polynomial equations best represents this graph?

A $(x + 6)(x - 2) = y$

B $(x - 2)(x - 16) = y$

C $(x - 6)(x + 2) = y$

D $(x + 2)(x + 16) = y$

Be careful!!!! These answers are NOT in x = form, they are in factor form.

Find the zeros and put them into FACTOR form. Example if the answer set was {-5,2}, you would write:

$x = -5 \quad x + 5 = 0 \quad (x + 5)$
$x = 2 \quad x - 2 = 0 \quad (x - 2)$
These are the factors!!!!

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2. Write these factors in root form, (x=????)

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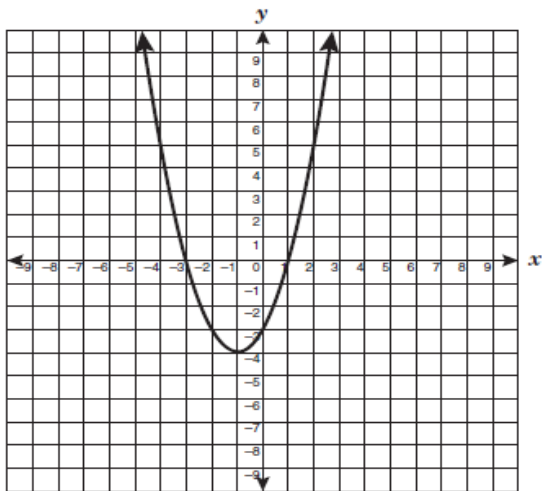
_____

$(\frac{1}{2} x - 2) \ \frac{1}{4} x + 4) = 0$

_____

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3. Write these roots in factor form:

{ -6, 12}   _____

{ - ¾ , 4}_____

4.

6 The graph of the function $y = x^2 + 2x - 3$ is shown below.

What are the y-intercept and x-intercepts of the function?

F $(0, -3), (0, 1), (-3, 0)$

G $(0, -3), (1, 0), (-3, 0)$

H $(-3, 0), (1, 0), (-3, 1)$

J $(1, -3), (0, 1), (0, -3)$

Look at the equation. The "c" value is the y intercept.

You write that (,).
Eliminate _____ and _____

An x intercept always begins with a number. That eliminates _____

Answer?_____

5.

The x intercepts of a quadratic function are (5,0) and (-2,0). Which quadratic function has these zeros?

a. $y = x^2 + 3x + 10$

b. $y = x^2 + 3x - 10$

c. $y = x^2 - 3x - 10$

d. $y = x^2 - 3x + 10$

6.

What is the solution SET for the equation:
$$y = 3x^2 - 15x - 72 ?$$

A. $\{-3, -8\}$

B. $\{3, 8\}$

C. $\{3, -8\}$

D. $\{-3, 8\}$

7.

Which ordered pair represents one of the roots of the function $f(x) = 2x^2 + 3x - 20$?
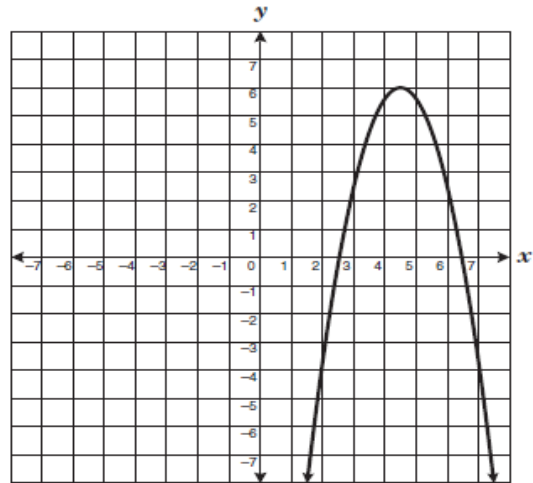
F $\left(-\dfrac{5}{2}, 0\right)$

G $(-4, 0)$

H $(-5, 0)$

J $(-20, 0)$

8.

Which points best represent the roots of the graphed quadratic equation shown below?

F $\left(6\dfrac{1}{2}, 0\right)$ and $\left(4\dfrac{1}{2}, 6\right)$

G $\left(4\dfrac{1}{2}, 6\right)$ and $\left(2\dfrac{1}{2}, 0\right)$

H $\left(2\dfrac{1}{2}, 0\right)$ and $\left(6\dfrac{1}{2}, 0\right)$

J $\left(0, 2\dfrac{1}{2}\right)$ and $\left(0, 6\dfrac{1}{2}\right)$

Quadratics…"zeros", solutions, "roots' all mean the same…

They are the values of "x' if you make the equation = to zero.

So, the answer if a TAKS question asks about "root", solutions or "zeros" are the places that the graph **TOUCH the X axis.**

9

Graph $y = 2x^2$

How many answers, solutions, roots or zeros does it have? _____ What is the "root"? (,)
Graph $y = 2x^2 + 3$ How many solutions does it have? _____

10.

We cannot always tell from a graph what exactly is the answer, so use the "trace" function we learned in class to determine the "zeros" of the following quadratic:

$y = 2x^2 - 6x - 3$ Remember, the calculator is making the best mathematical guess possible.

$x = $ {_____ , _____}

11.

A function is described by the equation $y = 2x^2 - 5x - 3$, in which y is dependent on x. If a value for the independent variable is selected from the set $\{-4, -1, 0, 2, 5\}$, which of the following is a corresponding dependent value?

A 9

B -6

C -5

D 0

Pretty easy. Put the equation at y =
Look at x = -4...what is y?_____ Is that an answer?_____
Do the same for -1, 0, 2, 5. Which one gives you A,B,C or D?

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12. The graph below shows the height of a baseball from the time it is thrown from the top of a building to the time it hits the ground.
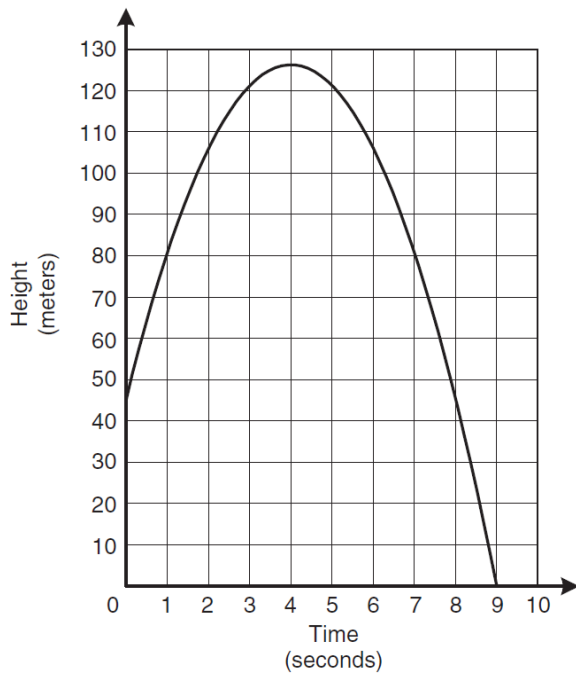
How much time elapses while the baseball is 80 meters or more above the ground?

What is the "c' value of this parabola? (also known as the y intercept?)_____
What does that mean???? _____
_____
How high was the baseball when it was first thrown?_____
When does the baseball approach 80 meters for the first time? _____
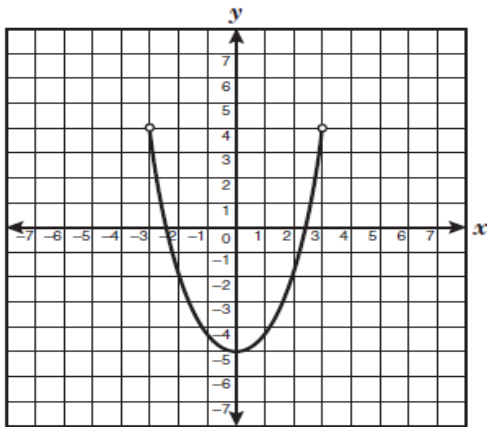When does it approach the 80-meter mark again? _____
How much time has passed between these two points?_____
Therefore, which is the correct answer?_____

F   1 sec

G   9 sec

H   7 sec

J   6 sec

13.

What is the domain of the function shown on the graph?

A $-3 \le x \le 3$

B $-3 < x < 3$

C $-5 < x \le 4$

D $-5 \le x < 4$

Does domain refer to the x-values or the y-values?_____

What is the smallest x-value on the graph?____

Is this value actually included in the domain?____

Why or why not?
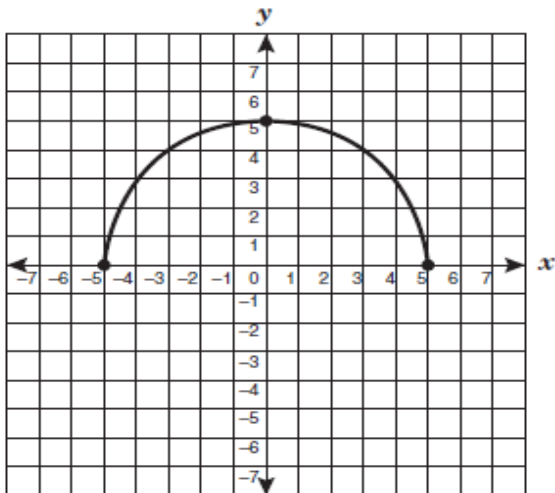
_____

What is the largest x-value on the graph?____

 Is this value actually included in the domain?____

Why or why not? _____

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14. Using the answers from above: Now, what would be the range if the x's were

changed to "y"?_____

15.

The graph of the function $y = \sqrt{25 - x^2}$ is shown on the coordinate grid below.

What is the domain of the function?

F $x \le 5$

G $x \ge -5$

H $-5 \le x \le 5$

J $0 \le x \le 5$

Follow the same thought process as the previous problems (use the questions presented on problem #13).

What are the minimum and maximum values of x?

Smallest x_____ Largest x_____

++++++++++++++++++++++++++++++

Now, what is the range if x were changed to "y" in the answers?

_____