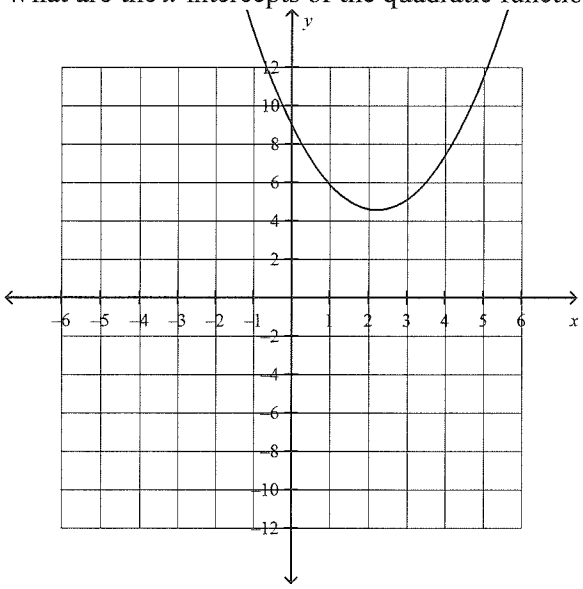
Name: _____ Class: _____ Date: _____ ID: A

Math 11 Pre-calculus LG 6/7 Ver B

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ **1.** What are the x-intercepts of the quadratic function graphed here?



A 4.6
B there are none
C –2.2
D 9.0

____ **2.** What are the roots of the quadratic function $y = 0.5x^2 + 3.5x + 6$?

A –0.125
B 4 and 3
C –4 and –3
D 6

____ **3.** Factor $x^2 + 16x + 64$ completely.

A $(x-8)(x+8)$
B $(x-8)(x-8)$
C $(x+8)(x+8)$
D $(x+8)(x-8)$

____ **4.** Factor $-4x^2 + 84x - 416$ completely.

A $-4(x+8)(x-13)$
B $-4(x-8)(x+13)$
C $-4(x+8)(x+13)$
D $-4(x-8)(x-13)$

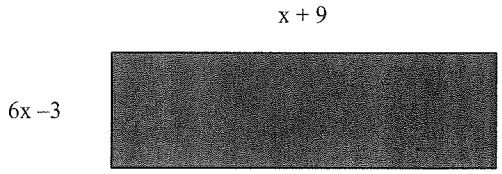
____ **5.** Determine the roots of the quadratic equation $144x^2 - 324 = 0$.

A $x = \frac{4}{9}$ and $x = -\frac{4}{9}$
B $x = \frac{3}{2}$ and $x = -\frac{3}{2}$
C $x = \frac{9}{4}$ and $x = -\frac{9}{4}$
D $x = \frac{2}{3}$ and $x = -\frac{2}{3}$

____ **6.** Solve $(x-6)(x-9)=0$.

A $x=-6$ and $x=-9$
B $x=6$ and $x=-9$
C $x=6$ and $x=9$
D $x=-6$ and $x=9$

____ **7.** A rectangle has dimensions $x+9$ and $6x-3$, where x is in centimetres. If the area of the rectangle is 30 cm^2, what is the value of x, to the nearest tenth of a centimetre?



A $x=-1.3$
B $x=9.5$
C $x=1.0$
D $x=-9.5$

____ **8.** Which is the vertex form of $2x^2-12x-10=0$? Round coefficients to the nearest hundredth if necessary.

A $2(x+3)^2-28=0$
B $2(x-28)^2-3=0$
C $2(x+3)^2+28=0$
D $2(x-3)^2-28=0$

____ **9.** Solve $(x+3)^2=6$.

A 3
B $3+\sqrt{6}$ and $3-\sqrt{6}$
C $\sqrt{3}$
D $-3+\sqrt{6}$ and $-3-\sqrt{6}$

____ **10.** When Alex rides his dirt bike off a ramp, his path can be modelled by $h(d)=-3.9d^2+16.9d+9.4$, where d is the horizontal distance from the ramp and h is the height, both in metres. How far away from the ramp does he land, to the nearest tenth of a metre?

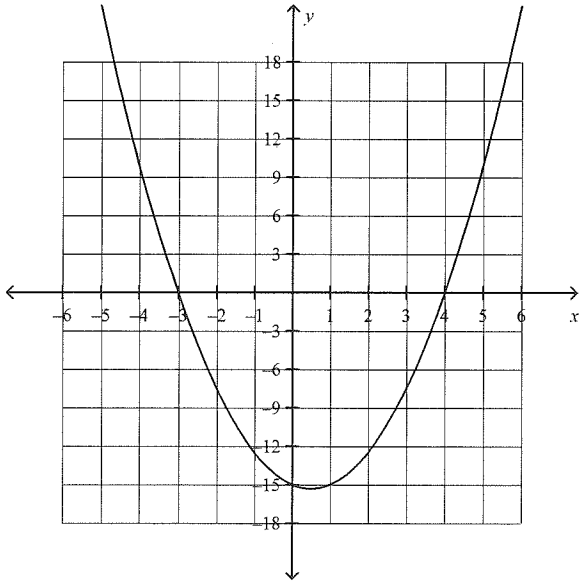
A 0.5 m
B 2.4 m
C 9.7 m
D 4.8 m

____ **11.** The number of real roots for the equation $y = 41.8x^2 + 31.3x + 13.7$ is

A 1
B impossible to tell
C 2
D 0

Completion
Complete each statement.

1. The completely factored form of $y = 5x^2 + 80x + 140$ is _____.
2. The quadratic equation $y = 27.1x^2 - 16.9x - 17.1$ has _____ real root(s).
3. The quadratic equation for this parabola is _____.



Learning Guide 6/7 Test B

1) Describe the situations in which the graph of a quadratic equation will have one solution, no solution and two solutions.

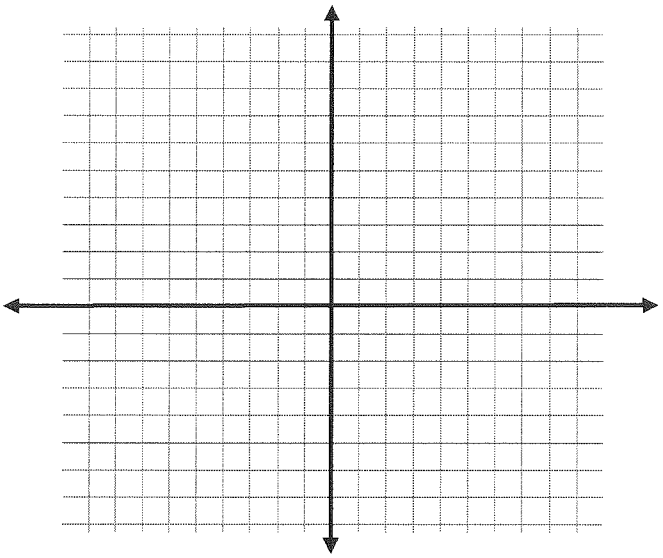
   No solution-

   One solution-

   Two solutions-

2) Using the coordinate grid below, graph the solutions of the quadratic equation.

$$y = -2x^2 + 4x + 6$$



3) Use the method of factoring to determine the roots of the following quadratic equation. State answers as exact values.

$$y = -3x^2 + 11x + 4$$

4) Use the quadratic formula to determine the zeros of the following quadratic function. State answers as exact values.

$$y = 3x^2 - 7x - 4$$

5) Determine the value of the descriminant, and the nature of the roots for the following quadratic equation.

$$y = -4x^2 + 12x - 9$$

6) Ashlyn's rectangular, walk-in closet measures 3 by 5 feet. She won the lottery and went on a shopping spree. As a result she wants to triple the area of her closet by increasing the length and width of the closet by the same amount. What is the new length and width of her closet? (Sketch a diagram if needed) Round answers to the nearest tenth of a foot.

Length: _____ Width: _____