First name: _____ Last name: _____ Student ID: _____

Review Homework

1. Solve

a) $\begin{cases} 4x+3y=7 \\ 3x+y=-1 \end{cases}$

b) $\begin{cases} \frac{x}{6}+\frac{y}{4}=6 \\ \frac{5x}{6}-\frac{y}{3}=11 \end{cases}$

2. A supermarket sells 2-kg and 4-kg bags of sugar. A shipment of 1100 bags of sugar has a total mass of 2900 kg. How many 2-kg bags and 4-kg bags are in the shipment?

3. Find the equation of the median from vertex A in ΔABC, if the coordinates of the vertices are

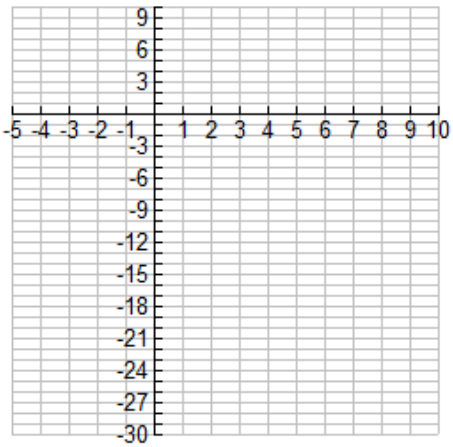
A(-3 , -1) , B(3 , 5) , and C(7 , -3).

4. Find the equation of the perpendicular bisector of the line segment joining P(-1 , 4) to Q(3 , -2).

5. Complete the Following Table

Equation	A. $y = x^2 - 4$	B. $y = -2(x+3)^2 + 5$	C. $y = -(x-4)^2$
Equation of Axis of Symmetry			
Direction of Opening			
Optimum Value			
Type of Vertical Stretch & its factor (if none, say none)			
Type of Translations			
Coordinates of the Vertex			

6. Given $y = 3x^2 - 18x + 1$
a) Complete the square.
b) State the vertex, equation of axis of symmetry, max/min value, and intercepts.
c) Graph



7. From the top of a 200 meters high building, the angle of depression to the bottom of a second building is 20°. From the same point, the angle of elevation to the top of the second building is 10°. Calculate the height of the second building.

8. Karla is riding vertically in a hot air balloon, directly over a point P on the ground. Karla spots a parked car on the ground at an angle of depression of 30^c. The balloon rises 50 meters. Now the angle of depression to the car is 35^o. How far is the car from point P?

9. If the shadow of a building increases by 10 meters when the angle of elevation of the sun rays decreases from 70^o to 60^o, what is the height of the building?

10. As shown in the diagram, a house is located at C on Lochaber Island in a lake and another house is located at B. If the distance from A to D is 10.0 km and $\angle ABC = \angle CAB = 28^0$. What is the distance from B to C?