NAME_____DATE_____
ALGEBRA II WORKSHEET: CONVERTING BETWEEN FORMS

Complete the table by converting each equation to the other forms. If it is impossible to write an equation in a certain form, write "None" in the appropriate space.

	Intercept	Standard	Vertex
1.	$y = 2(x-4)(x+3)$		
2.			$y = -(x+2)^2 + 16$
3.		$y = x^2 - 2x + 5$	
4.		$y = -x^2 - 2x + 35$	
5.			$y = 3(x-1)^2 - 48$

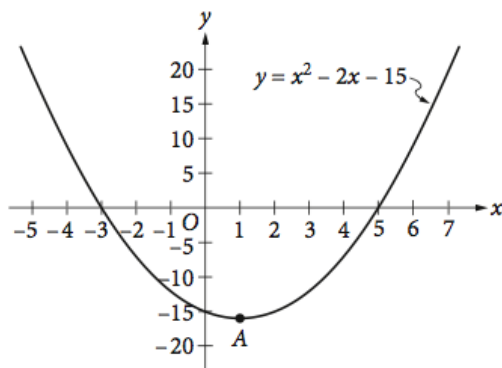**6-9. Simplify each complex number expression completely.**

6. $\left(\dfrac{2}{3} + 4i\right) + \left(-\dfrac{1}{5} + \dfrac{7}{4}i\right)$

7. $\left(\sqrt{75} + \dfrac{2}{9}i\right) - i\left(-\dfrac{3}{4} + i\sqrt{27}\right)$

8. $\left(\sqrt{7} - 4i\right)\left(\sqrt{7} + 4i\right)$

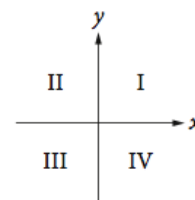9. $\left(\dfrac{2}{5} + \dfrac{1}{3}i\right)^2$

10.

Which of the following is an equivalent form of the equation of the graph shown in the xy-plane above, from which the coordinates of vertex A can be identified as constants in the equation?

A) $y = (x+3)(x-5)$
B) $y = (x-3)(x+5)$
C) $y = x(x-2) - 15$
D) $y = (x-1)^2 - 16$

11.

If the system of inequalities $y \geq 2x + 1$ and $y > \dfrac{1}{2}x - 1$ is graphed in the xy-plane above, which quadrant contains no solutions to the system?

A) Quadrant II
B) Quadrant III
C) Quadrant IV
D) There are solutions in all four quadrants.