SM2-A HW #5-4 (Convert Intercept Form to Vertex Form)   Period____

For problems 1-8: Use your Intercept form equation and x-intercepts from HW #5-3

a) Find the vertex using the method I taught in the notes.
b) Write the vertex form equation.

1) $y = x^2 - 6x + 8$ 2) $y = x^2 - 14x + 40$

3) $y = x^2 + 10x + 16$ 4) $y = x^2 + 4x - 32$

5) $y = 2x^2 - 12x + 18$ 6) $y = x^2 - x - 12$

7) $y = x^2 + 10x + 21$ 8) $y = x^2 - 6x - 16$

a) Convert the following standard form quadratic equations into intercept form (by factoring).
b) What are the x-values of the x-intercepts?
c) Find the x-value of the vertex (the average of the x-values of the x-intercepts).
d) Find the y-value of the vertex (by inputing the x-value you found in "c" into your equation.
e) Write the vertex form equation.

9) $y = x^2 - 4x - 60$

10) $y = x^2 - 8x - 48$

11) $y = x^2 + 18x + 32$

12) $y = x^2 + 12x + 32$

Write each expression in exponential form.

13) $\sqrt[3]{10n}$

14) $\sqrt{7p}$

Write each expression in radical form.

15) $(3r)^{\frac{4}{3}}$

16) $(10v)^{\frac{7}{6}}$