Correct Last Day's Homework: pp. 271-272 (Oral for 1,2), #3

Today's Learning Goal(s):

By the end of the class, I will be able to:

a) Use intercept form, $y = a(x\text{-}r)(x\text{-}s)$ to find the zeros and graph a quadratic relation.

Note: Today's worksheet **is** the homework.

MBF 3CI   **Recall: y = a(x-r)(x-s)**   Date: ___*May 2/17*___

5.5 The *x*-intercepts of a Quadratic Relation (Day2 Worksheet)

1. Fill in the missing terms.
   BE CAREFUL: Make sure that each term has a + <u>OR</u> – sign preceding it.

   a) $(x-3)(x+4) = x^2 + x$ __-12__

   b) $4x(x-3) = 4x^2$ _____

   c) $(x-6)(x+2) = x^2$ _____ _____

   d)   _____ $(5x+3) = 10x^2 + 6x$

   e) $(x$ __$+3$__$)(x+2) = x^2 + 5x + 6$

   f) $(x+3)(x$ _____$) = x^2 - 6x - 27$

2. Factor completely:

a) $2x + 8$

$= 2(x + 4)$

b) $-3x^2 - 15x$

$= -3x(x + 5)$

c) $x^2 + 7x + 12$

$= (x + 3)(x + 4)$

d) $2x^2 - 4x - 6$

$= 2(x^2 - 2x - 3)$
$= 2(x - 3)(x + 1)$

e) $x^2 - 13x + 42$

f) $x^2 - 4x + 4$

g) $x^2 - 4x - 32$

h) $-2x^2 + 12x - 10$

i) $x^2 - 11x + 28$

3. Find the zeros (*x*-intercepts) by factoring:

a) $y = x^2 + 10x + 16$ b) $y = x^2 - 2x - 15$ c) $y = x^2 - 6x - 7$

$0 = (x+8)(x+2)$

$x+8 = 0 \qquad x+2 = 0$

$x = -8 \qquad x = -2$

d) $y = 2x^2 - 18$ e) $y = 2x^2 - 28x + 98$ f) $y = 3x^2 + 39x + 108$

4. For each relation in question 3, graph using the zeros/intercept form:
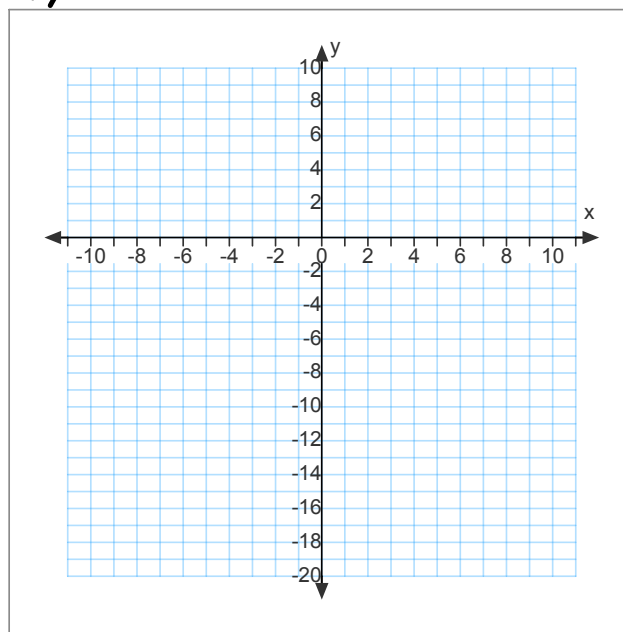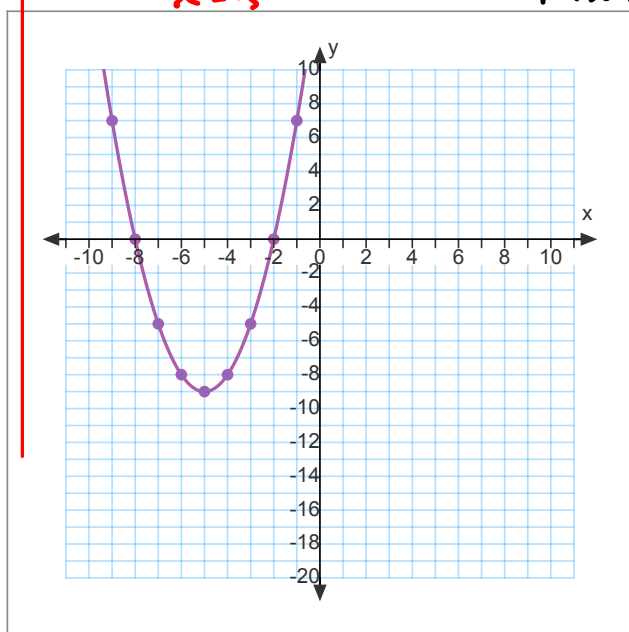
a) $y = x^2 + 10x + 16$ if x=-5
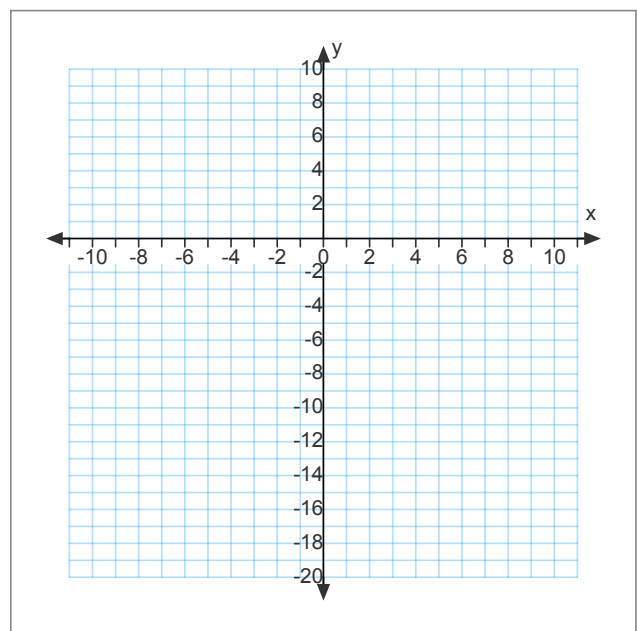
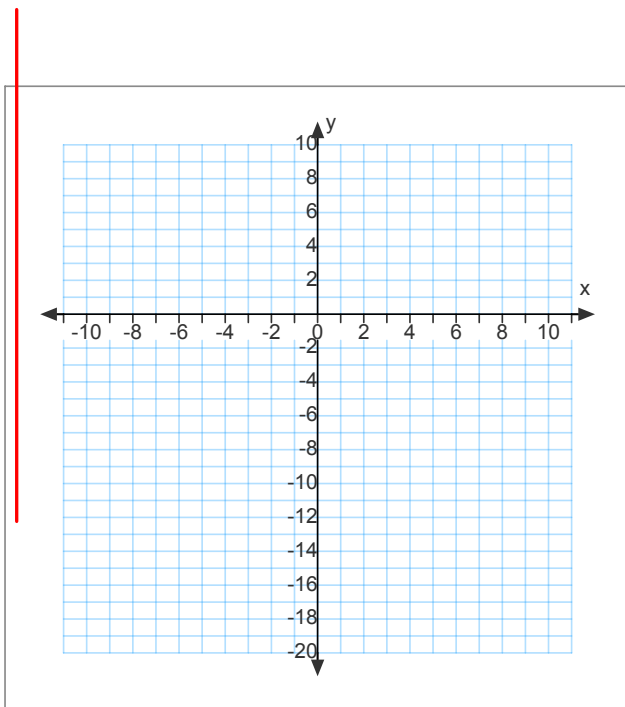$X = -8$ or $K = -2$

AgS: $X = \dfrac{-8 + (-2)}{2}$

$= \dfrac{-10}{2}$

$x = -5$

$y = (x+8)(x+2)$

$y = (-5+8)(-5+2)$

$= (3)(-3)$

$= -9$ ∴v(-5,-9)

b) $y = x^2 - 2x - 15$

c) $y = x^2 - 6x - 7$

d) $y = 2x^2 - 18$

e) $y = 2x^2 - 28x + 98$

f) $y = 3x^2 + 39x + 108$