Lesson 8 – Factoring (Part 2)

LEARNING GOALS:

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REVIEW:

1. Relation: _____   b = _____   c = _____

I need 2 integers that:

- Add to Equal:

- Multiply to Equal:

$$y = (\quad\quad)(\quad\quad)$$

Factors of:	Sum

TIPS AND TRICKS:

If c is Positive, I am looking for:	If c is negative, I am looking for:

PRACTICE, PRACTICE, PRACTICE!

1. Complete the table:

Multiply to	Add to	All possible **factor pairs**, circle the correct one
20	9	
21	-10	
6	5	
6	-7	
2	3	
28	-11	
-15	2	

2. Write each equation in factored form:

a) Relation: $y = x^2 + 5x + 6$ b = _____   c = _____

I need 2 integers that:

- Add to Equal:

- Multiply to Equal:

$y = ($ $)($ $)$

Factors of:	Sum

b) Relation: $y = x^2 + 7x + 6$ b = _____   c = _____

I need 2 integers that:

- Add to Equal:

- Multiply to Equal:

$y = ($ $)($ $)$

Factors of:	Sum

c) Relation: $y = x^2 - 8x + 12$ b = _____   c = _____

I need 2 integers that:

- Add to Equal:

- Multiply to Equal:

$y = ($ $)($ $)$

Factors of:	Sum

d) Relation: $y = x^2 + 4x - 5$ b = _____   c = _____

I need 2 integers that:

Factors of:	Sum

- Add to Equal:

- Multiply to Equal:

$y = ($ $)($ $)$

e) Relation: $y = x^2 - 7x + 12$ b = _____   c = _____

I need 2 integers that:

Factors of:	Sum

- Add to Equal:

- Multiply to Equal:

$y = ($ $)($ $)$

f) Relation: $y = x^2 - 2x - 15$ b = _____   c = _____

I need 2 integers that:

Factors of:	Sum

- Add to Equal:

- Multiply to Equal:

$y = ($ $)($ $)$

g) Relation: $y = x^2 - 5x - 24$ b = _____   c = _____

I need 2 integers that:

Factors of:	Sum

- Add to Equal:

- Multiply to Equal:

$y = ($ $)($ $)$

h) Relation: $y = x^2 + 4x - 60$ b = _____   c = _____

I need 2 integers that:

Factors of:	Sum

- Add to Equal:

- Multiply to Equal:

$y = ($ $)($ $)$

Given the standard form of the quadratic relation, identify the value of the sum and product needed to factor. Express the relation in factored form, identify the x-intercepts and y-intercept, and use these results to make a sketch of each parabola.

	Standard Form	Product and Sum	Factor Pair	Factored Form	x-intercepts	y-intercept
A	$y = x^2 + 6x + 5$	$r \times s = 5$ $-(r + s) = 6$	1 and 5	$y = (x + 1)(x + 5)$	-1 and -5	5
B	$y = x^2 - 4x - 5$	$r \times s =$ $-(r + s) =$				
C	$y = x^2 + 4x - 5$	$r \times s =$ $-(r + s) =$				
D	$y = x^2 - 6x + 5$	$r \times s =$ $-(r + s) =$				
E	$y = x^2 + 7x + 6$	$r \times s =$ $-(r + s) =$				
F	$y = x^2 - 6x + 9$	$r \times s =$ $-(r + s) =$				
G	$y = x^2 - x - 6$	$r \times s =$ $-(r + s) =$				
H	$y = x^2 + 13x +$	$r \times s =$ $-(r + s) =$				
I	$y = x^2 - 4x - 1$	$r \times s =$ $-(r + s) =$				
J	$y = x^2 + x - 12$	$r \times s =$ $-(r + s) =$				

Sketch of the relation