

Warm - Up  
3/1

Identify a, b, and c in the following polynomial

$$-8x^2 - 30 + 8x^2$$

$$8x^2 + -8x + -30$$

$$a=8 \quad b=-8 \quad c=-30$$

Factor Completely

$$a=1 \quad b=-3 \quad c=-40$$
$$-40 + 1b^2 - 3b$$
$$b^2 - 3b - 40$$

1)  $ac = -40, \quad b = -3$

2) Product

	-40
1	40
2	20
4	10
5	8

-3

Sum

$$b^2 - 3b - 40$$

3)  $(b^2 + 5b) + (8b - 40)$

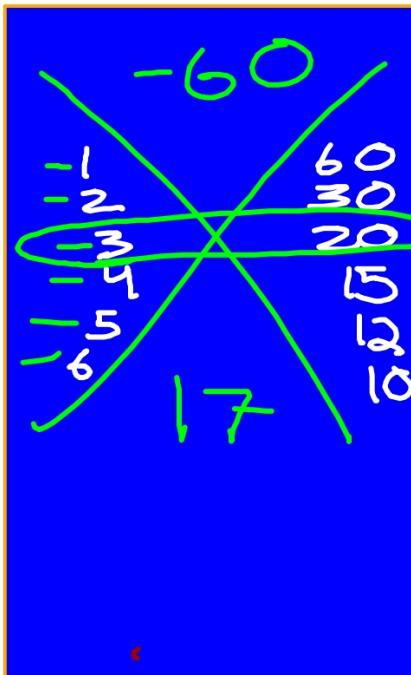
GCF = b      GCF = -8

$$b(b + 5) - 8(b + 5)$$

4)  $(b + 5)(b - 8)$

### Factor Completely

$$ac = -60, b = 17$$



$$q^2 + 17q - 60$$

$$(q^2 - 3q) + (20q - 60)$$

$q^2 = q \cdot q$   
 $-3q = -1 \cdot 3 \cdot q$   
GCF =  $q$

$20q = 2 \cdot 2 \cdot 5 \cdot q$   
 $-60 = -1 \cdot 2 \cdot 2 \cdot 3 \cdot 5$   
GCF =  $20$

$q(q-3) + 20(q-3)$   
 $(q-3)(q+20)$

Factor Completely

$$a^2 - 16a + 28$$

$$ac = 28, \quad b = -16$$

$$2 \times 2 \times 7$$

$$28$$

$$1 \times 28$$

$$-2 \times -14$$

$$3 \times$$

$$4 \times 7$$

$$(a^2 - 2a) + (14a + 28)$$

$$a(a - 2) - 14(a - 2)$$

$$(a - 2)(a - 14)$$

Factor Completely

$$8a^2 + 10a + 3$$

$$ac = 8 \times 3 = 24, \quad b = 10$$

$$2 \times 2 \times 2 \times 3$$

24

$$1 \times 24$$

$$2 \times 12$$

$$3 \times 8$$

$$4 \times 6$$

$$5 \times$$

$$8a^2 + 4a + 6a + 3$$

$$4a(2a + 1) + 3(2a + 1)$$

$$(2a + 1)(4a + 3)$$



**Homework (due Tue, March 5th)**

**p.91 (7 - 18)**

Factor Completely

$$10z^2 - 7z + 1$$

