

Factoring Quiz Review Fri 5/11

Multiply the expression.

1.  $(3x-7)(6x-1)$

2.  $2x^3y^6z(3xz^3 - 2y^4z - 9xy)$

Factor the GCF of the polynomial.

3.  $12x^9 + 8x^2 + 36x^3$

4.  $15y^4z^4 + 25x^3y^2z^2 - 35xy^7z$

Factored Form: \_\_\_\_\_

Factored Form: \_\_\_\_\_

Factor the polynomial using grouping or Lizzy method

5.  $x^2 + 16x + 28$

6.  $-5r^2 + 6r + 8$

Factored Form: \_\_\_\_\_

Factored Form: \_\_\_\_\_

Check!

Check!

$$7. -9x^2 - 6x + 24$$

Factored Form: \_\_\_\_\_

Check!

$$8. 7w^2 - 3w - 4$$

Factored Form: \_\_\_\_\_

Check!

$$9. -9x^2 + 3x + 2$$

Factored Form: \_\_\_\_\_

Check!

$$10. 3m^2 - 108$$

Factored Form: \_\_\_\_\_

Check!

Multiply the expression.

1.  $(3x-7)(6x-1)$

$$18x^2 - 3x - 42x + 7$$

$$18x^2 - 45x + 7$$

2.  $2x^3y^6z(3xz^3 - 2y^4z - 9xy)$

$$6x^4y^6z^4 - 4x^3y^{10}z^2 - 18x^4y^7z$$

Factor the GCF of the polynomial.

3.  $\frac{12x^9}{4x^2} + \frac{8x^2}{4x^2} + \frac{36x^3}{4x^2}$

$$4x^2(3x^7 + 2 + 9x)$$

Factored Form:  $4x^2(3x^7 + 2 + 9x)$

4.  $\frac{15y^4z^4}{5yz} + \frac{25x^3y^2z^2}{5yz} - \frac{35xy^7z}{5yz}$

$$3y^3z^3 + 5x^3yz - 7xy^6$$

Factored Form:  $5yz(3y^3z^3 + 5x^3yz - 7xy^6)$

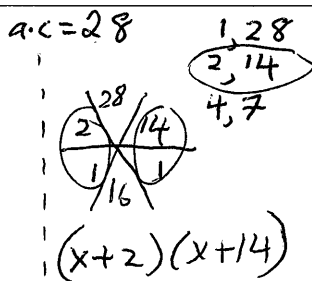
Factor the polynomial using grouping or Lizzy method

5.  $x^2 + 16x + 28$   $a \cdot c = 28$

$$x^2 + 2x + 14x + 28$$

$$x(x+2) + 14(x+2)$$

$$(x+2)(x+14)$$



Factored Form:  $(x+2)(x+14)$

Check!

$$x^2 + 16x + 28$$

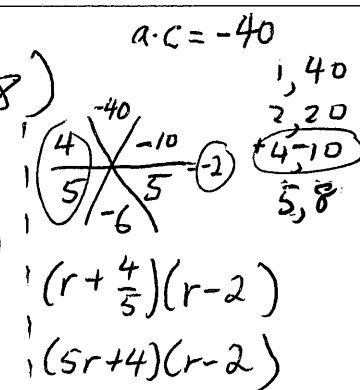
6.  $-5r^2 + 6r + 8$   $a \cdot c = -40$

$$-1(5r^2 - 6r - 8)$$

$$5r^2 + 4r - 10r - 8$$

$$r(5r+4) - 2(5r+4)$$

$$-1(5r+4)(r-2)$$



Factored Form:  $-1(5r+4)(r-2)$

Check!

$$7. -9x^2 - 6x + 24 \quad -3(3x^2 + 2x - 8)$$

$$3x^2 + 6x - \frac{4x}{-4} - \frac{8}{-4}$$

$$3x(x+2) - 4(x+2)$$

$$(3x-4)(x+2)$$

$$\begin{array}{r} -24 \\ 6 \quad -4 \\ \hline 3 \quad 2 \quad 3 \\ \hline \end{array}$$

$$a \cdot c = -24$$

$$1, 24$$

$$2, 12$$

$$3, 8$$

$$(-4, 6)$$

$$(x+2)(x-\frac{4}{3})$$

$$(x+2)(3x-4)$$

$$\text{Factored Form: } -3(3x-4)(x+2)$$

Check!

$$8. 7w^2 - 7w - 4 \quad a \cdot c = -28$$

$$7w^2 - 7w + 4w - 4$$

$$7w(w-1) + 4(w-1)$$

$$(7w+4)(w-1)$$

$$\begin{array}{r} -28 \\ 4 \quad -7 \\ \hline 7 \quad -3 \quad 7 \\ \hline \end{array}$$

$$1, 28$$

$$2, 14$$

$$(4, -7)$$

$$(w+\frac{4}{7})(w-1)$$

$$(7w+4)(w-1)$$

$$\text{Factored Form: } (7w+4)(w-1)$$

Check!

$$9. -9x^2 + 3x + 2 \quad -1(9x^2 - 3x - 2)$$

$$9x^2 + 3x - 6x - 2$$

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

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

$$\begin{array}{r} -18 \\ 3 \quad -6 \\ \hline 9 \quad 1 \quad 9 \\ \hline \end{array}$$

$$a \cdot c = -18$$

$$1, 18$$

$$2, 9$$

$$(3, -6)$$

$$(x+\frac{1}{3})(x-\frac{2}{3})$$

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

$$\text{Factored Form: } -1(3x+1)(3x-2)$$

Check!

$$10. 3m^2 - 108 \quad 3(m^2 - 36)$$

$$m^2 + 0m - 36$$

$$m^2 + 6m - 6m - 36$$

$$m(m+6) - 6(m+6)$$

$$(m-6)(m+6)$$

$$a \cdot c = -36$$

$$1, 36$$

$$2, 18$$

$$3, 12$$

$$4, 9$$

$$(6, -6)$$

$$\begin{array}{r} -36 \\ 6 \quad -6 \\ \hline 1 \quad 0 \quad 1 \\ \hline \end{array}$$

$$(m-6)(m+6)$$

$$\text{Factored Form: } 3(m+6)(m-6)$$

Check!