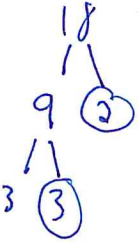


**Unit 7 Skills Review – March 16<sup>th</sup> – March 20<sup>th</sup>**

Name: Key

What is the biggest number that divides both numbers.  
Find the GCF of the following expressions.

1. 18 and 30



$$3 \cdot 2 = \boxed{6} = \text{gcf}$$

2.  $4x^2y^3$  and  $16xy^2$

$$4x^2y^3 = \underline{2} \cdot \underline{2} \cdot \underline{x} \cdot \underline{x} \cdot \underline{y} \cdot \underline{y} \cdot \underline{y}$$

$$16xy^2 = \underline{2} \cdot \underline{2} \cdot \underline{2} \cdot \underline{2} \cdot \underline{x} \cdot \underline{y} \cdot \underline{y}$$

$$\text{GCF} = 4xy^2$$

3. Find the missing factor:  $28r^4s^3 = (7r)(\underline{4r^3s^3})$

$$\frac{28r^4s^3}{7r} = 4r^3s^3$$

Factor the expression.

4.  $5x^2 - 15x$

$$\boxed{5x(x-3)}$$

check your work

$$5x(x-3) = 5x^2 - 15x \checkmark$$

5.  $12xy - 18y$

$$\boxed{6y(2x-3)}$$

you can check your answer by multiplying

$$\text{check } 6y(2x-3) = 12xy - 18y \checkmark$$

6.  $3x^4 - 7x^3 + 6x - 14$

No GCF!

7.  $3x^2 + 6x - 9$

$$\boxed{3(x^2 + 2x - 3)}$$

Factor each of the following binomials.

8.  $x^2 - 100$

$$(x-10)(x+10)$$

9.  $x^2 - 49$

$$(x-7)(x+7)$$

10.  $x^4 - 36$

$$(x^2-6)(x^2+6)$$

11.  $x^2 - 4y^2$

$$(x-2y)(x+2y)$$

★ These are conjugate pairs,  $(a+b)(a-b) = a^2 - b^2$  ★ Difference of Perfect Squares

Remember, it is okay to guess and check!

Factor each of the following trinomials.

12.  $x^2 - 11x + 28$  <sup>28.1, 14.2, 7.4</sup>

\* Which one helps me get 11?

$(x-7)(x-4)$

13.  $x^2 + 8x - 9$  <sup>-9.1, -1.9, -3.3</sup>

$(x-1)(x+9)$

\* Remember, the 9 is positive because  $9-1=8$ .

14.  $x^2 + 30x + 200$  <sup>200.1, 20.10, 100.2</sup>

$(x+20)(x+10)$

15.  $3x^2 + 16x - 12$  <sup>3.1, 12.1, 6.2, 3.4</sup>

$(3x-2)(x+6)$

\* Why is the 6 positive? B/C  $6 \cdot 3 = 18$ ,  $18 - 2 = 16!$

16.  $18x^2 + 3x - 10$  <sup>18.1, 3.6, 9.2, 10.1, 5.2</sup>

$(6x+5)(3x-2)$

$-12x$   
 $+15x$

$3x$

$(6x+5)(3x-2)$

18.  $24x^2 - 27x + 6$

$3(8x^2 - 9x + 2)$

can't factor any further

17.  $4x^2 + 27x + 18$  <sup>4.1, 2.2, 18.1, 6.3, 9.2</sup>

$(4x+3)(x+6)$

$3x$

$24x$

$3x + 24x = 27x$

19.  $2x^2 + 13x + 21$

$2.1$  <sup>7.3, 21.1</sup>

$(2x+7)(x+3)$

$7x$

$6x$   $7x+6x=13x$

20. Circle the following expressions that are polynomials.

$2x^3 + 2x$

$4x + 3^x$

$6x^2 + 2x + 1$

$3x^2 + \frac{4}{x}$

No because "x" cannot be an exponent

No because x cannot be in the denominator.