Name: _____

Factors

Exercise 1: Find the GCF (Greatest Common Factor) of the following monomials.

1) $18x^3y^2, 24x^2y^5, 12xy^4$

2) $20x^3y^5, 32x^7y^3, 8x^4y^9$

3) $a^8b^4, 7a^4b^5, 14a^7b^8$

4) $12c^6d^{10}, 15c^4d, 14c^8d^4$

5) $30x^5y^2, 90x^{12}y^8, 35xy^8$

6) $9x^7y^5z^3, 50x^4y^8z^7, 20x^5y^7z^9$

7) $6x^8y^9z^{13}, 36x^9y^{11}z^{13}, 54x^9y^{13}z^7$

8) $12x^6y^9z^{11}, 36x^5y^7z^9, 40x^9y^{11}z^{12}$

Exercise 2: Complete. In exercises with two blanks, both blanks represent the same expression.

1) $12x+9y=3(\_\_\_\_+3y)$
2) $4abc+8abc^2=\_\_\_\_\_(1+2c)$
3) $(12a^2-20ab)+(9ay-15by)=4a(\_\_\_\_\_)-3y(\_\_\_\_\_)$
4) $(x^2+2xy)+(6kx+12ky)=x(\_\_\_\_\_)+6k(\_\_\_\_\_)$

Exercise 3: Factor the following expressions

1) a) $xy-5y$ b) $x(x-4)-5(x-4)$

2) a) $xy+3y$ b) $x(x+3)-5(x+3)$

3) a) $3a-ab$ b) $3(c+5)+a(c+5)$

4) a) $pq-rp$ b) $p(a+6)-p(a+6)$

5) a) $4ef-4eg$ b) $4e(x^2+1)-5(x^2+1)$

Exercise 4: Find the GCF of the terms of the polynomial and factor it out. If the first term that appears in the polynomial has a **negative coefficient**, then factor out the **negative** of the GCF.

1) $56abc+16abd$

2) $-10a+25c$

3) $9x-24y$

4) $-4y-24$

5) $-3b+15$

6) $5a+10$

7) $4x-12$

8) $8ab-12bc$

9) $6a^3b^2+2ab$

10) $15r^2t-20rt^2$

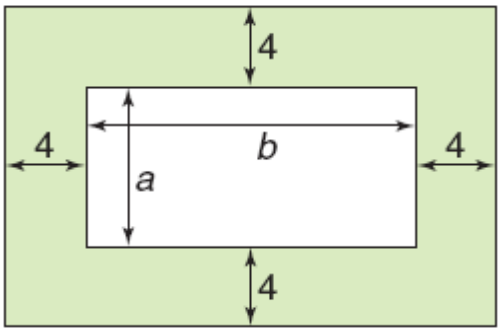
11) $-30u^4v^3+2u^3w^6$

12) $4x^3+2x^2-8x$

Exercise 5: The area of a rectangle is (16*x* + 4*y*) square feet. If the width is 4 feet, find the length.

Exercise 6: Write an expression in factored form that represents the area of the shaded region.

1)



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