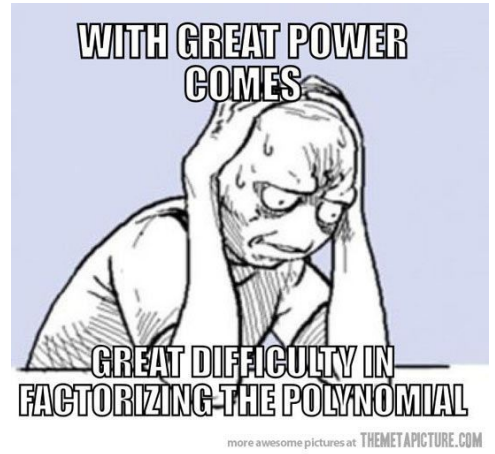


Name \_\_\_\_\_

# FOM 3 Unit 3: Factoring



| Monday   | Tuesday  | Wednesday  | Thursday  | Friday   |
|--|--|--|---|--|
|  |  |  |   | <b>September 27</b> <ul style="list-style-type: none"> <li>Factor using GCF</li> <li>Factor difference of two squares</li> </ul> HW: worksheet 3.1 |
| <b>September 30</b> <ul style="list-style-type: none"> <li>No School - Teacher workday</li> </ul>    | <b>October 1</b> <ul style="list-style-type: none"> <li>Factor trinomials</li> </ul> HW: worksheet 3.2 | <b>October 2</b> <ul style="list-style-type: none"> <li>Factor trinomials</li> </ul> HW: worksheet 3.3 | <b>October 3</b> <ul style="list-style-type: none"> <li>QUIZ!!</li> <li>Mixed practice factoring</li> </ul> HW: worksheet 3.4 | <b>October 4</b> <ul style="list-style-type: none"> <li>Zeroes and multiplicity from factors</li> </ul> HW: worksheet 3.5                          |
| <b>October 7</b> <ul style="list-style-type: none"> <li>Review for test</li> </ul> HW: finish review | <b>October 8</b> <ul style="list-style-type: none"> <li>TEST!!</li> </ul>                              |  |   |  |

### **3.1 - Factor Using the Greatest Common Factor**

*Factor each polynomial completely.*

1.  $45x^2 - 25x$

2.  $-27x^2y^5 - 72x^3y^2$

3.  $30b^9 + 5ab - 15a^2$

4.  $9m^2 - 900$

5.  $-10x^4 + 20y^2 + 12x$

6.  $6x^2 - 2x$

7.  $8x^3y^2 + 4x^3$

8.  $30qpr - 5qp + 50q$

9.  $-3x^3 + 27x$

10.  $-24x^6 - 4x^4 + 12x^3 + 8x^2$

### **3.2 - Factor Trinomials**

*Factor each polynomial completely.*

1.  $x^2 - x - 56$

2.  $2n^2 + 5n + 2$

3.  $n^2 - 10n + 9$

4.  $16b^2 - 40b + 25$

5.  $m^2 + 2m - 24$

6.  $2w^2 + 3w - 9$

7.  $3p^2 - 8p + 4$

8.  $3x^2 - 2x - 5$

### **3.3 - More Factor Trinomials**

*Factor each polynomial completely.*

1.  $10x^2 + 17x + 3$

2.  $p^2 - 11p + 28$

3.  $3x^2 + x - 14$

4.  $4x^2 + 14x - 30$

5.  $k^2 - 13k + 40$

6.  $7x^2 + 16x - 15$

7.  $6x^3 + 53x^2 - 9x$

8.  $7a^2 + 53a + 28$

### **3.4 - Mixed Factoring Practice**

*Factor each polynomial completely.*

1.  $5x^2 - 25x$

2.  $z^2 + 9z + 8$

3.  $7x^3 + 14x^2 + 7x$

4.  $9d^2 - 4$

5.  $5x^2 - 32x - 21$

6.  $p^2 + 5p - 36$

7.  $2w^2 + 20w + 48$

8.  $-3x^5 - 6x^3 + 18x$

9.  $6x + 21$

10.  $4m^2 - 16$

11.  $4x^2 + 20x + 9$

12.  $16g^3h + 10g^2h - 4g$

### **3.5 - Zeroes From Factors**

*Write the polynomials in factored form using the given zeroes and multiplicities.*

1.  $x = 4$  mult: 1,  $x = -3$  mult: 2

2.  $x = 2$  mult: 5,  $x = 3$  mult: 1,  $x = 0$  mult: 9

3.  $x = 7$  mult: 1,  $x = 2$  mult: 1,  $x = 5$  mult: 1

4.  $x = -1$  mult: 6,  $x = 10$  mult: 2

5.  $x = 0$  mult: 2,  $x = -14$  mult: 4

6.  $x = -8$  mult: 4,  $x = -6$  mult: 3

7.  $x = 11$  mult: 133

8.  $x = 138$  mult: 3,  $x = -1845$  mult: 5

*For each polynomial, determine the zeroes and their multiplicities.*

9.  $f(x) = 5(x - 6)^2(x + 1)(x - 4)$

10.  $f(x) = x^{15}(x - 4)^{20}$

11.  $f(x) = -7(x + 3)(x - 2)$

12.  $f(x) = -4x^2(2x + 3)^4(x - 10)$