

Name: _____ Period: _____ Date: _____

Factoring $x^2 + bx + c$ Bell Work

Factor the following polynomials in $x^2 + bx + c$ form.

1. $x^2 - 16x + 64$

2. $y^2 - 12y + 20$

3. $a^2 - 3a - 4$

4. $a^2 + 5a - 24$

5. $x^2 + 7x - 30$

6. $y^2 - 14y - 72$

7. $b^2 + 3b + 2$

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

9. $y^2 + 9y - 22$

10. $a^2 - 13a + 36$

Factoring $x^2 + bx + c$ Bell Work**Answer:**Factor the following polynomials in $x^2 + bx + c$ form.

1. $x^2 - 16x + 64$

Answer:

$x^2 = (x)(x)$

$64 = (-8)(-8)$

$-16x = -8x - 8x$

$(x - 8)(x - 8)$

3. $a^2 - 3a - 4$

Answer:

$a^2 = (a)(a)$

$-4 = (-4)(1)$

$-3a = -4a + a$

$(a - 4)(a + 1)$

5. $x^2 + 7x - 30$

Answer:

$x^2 = (x)(x)$

$-30 = (10)(-3)$

$10x = 10x - 3x$

$(x + 10)(x - 3)$

7. $b^2 + 3b + 2$

Answer:

$b^2 = (b)(b)$

$2 = (2)(1)$

$3b = 2b + b$

$(b + 2)(b + 1)$

9. $y^2 + 9y - 22$

Answer:

$y^2 = (y)(y)$

$-22 = (11)(-2)$

$9y = 11y - 2y$

$(y - 11)(y - 2)$

2. $y^2 - 12y + 20$

Answer:

$y^2 = (y)(y)$

$20 = (-10)(-2)$

$-12y = -10y - 2y$

$(y - 10)(y - 2)$

4. $a^2 + 5a - 24$

Answer:

$a^2 = (a)(a)$

$-24 = (8)(-3)$

$5a = 8a - 3a$

$(a + 8)(a - 3)$

6. $y^2 - 14y - 72$

Answer:

$y^2 = (y)(y)$

$-72 = (-18)(4)$

$-14y = -18y + 4y$

$(y - 18)(y + 4)$

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

Answer:

$d^2 = (d)(d)$

$5 = (-5)(-1)$

$-6d = -5d - d$

$(d - 5)(d - 1)$

10. $a^2 - 13a + 36$

Answer:

$a^2 = (a)(a)$

$36 = (-9)(-4)$

$-13a = -9a - 4a$

$(a - 9)(a - 4)$