

2.5 Factoring Quiz Review 2

Name _____

Factor completely. If the polynomial is not factorable, write *prime*.

1. $x^2 + 22x + 121$

$$(x+11)^2$$

2. $x^3 + 1$

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

3. $x^2 - 15x + 50$

$$(x-5)(x-10)$$

4. $6x^2 + 7x - 3$

$$\begin{array}{r} \frac{6x^2}{-2x} \quad \frac{6x^2}{5x} \quad \begin{array}{l} 18 \\ \wedge \\ -2 \quad 9 \end{array} \\ (3x-1)(2x+3) \end{array}$$

5. $9x^2 + 36$

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

6. $2x^4 - 24x^3 + 40x^2$

$$\begin{array}{l} 2x^2(x^2 - 12x + 20) \\ 2x^2(x-2)(x-10) \end{array}$$

7. $-y^2 - 10y + 56$

$$\begin{array}{l} -1(y^2 + 10y - 56) \\ -1(y+14)(y-4) \end{array}$$

8. $8x^3 + 12x^2 - 2x - 3$

$$\begin{array}{l} 4x^2(2x+3) - 1(2x+3) \\ (4x^2-1)(2x+3) \\ (2x+1)(2x-1)(2x+3) \end{array}$$

9. $3x^2 + 22x + 35$

$$\begin{array}{r} \frac{3x^2}{7x} \quad \frac{3x^2}{15x} \quad \begin{array}{l} 105 \\ \wedge \\ 7 \quad 15 \end{array} \\ (3x+7)(x+5) \end{array}$$

10. $-y^2 + 25$

$$\begin{array}{l} -1(y^2 - 25) \\ -1(y+5)(y-5) \end{array}$$

11. $2a^2 + 32a + 78$

$$\begin{array}{l} 2(a^2 + 16a + 39) \\ 2(a+3)(a+13) \end{array}$$

12. $8x^2 - 64$

$$8(x^2 - 8)$$

13. $n^2 - 25n + 84$

$$(n-4)(n-21)$$

14. $x^2 - 15x - 16$

$$(x-16)(x+1)$$

15. $8y^3 - 125$

$$(2y-5)(4y^2+10y+25)$$

16. $c^2 - 12c - 28$

$$(c-14)(c+2)$$

17. $4x^2 - 12 + 13x$

$$\begin{array}{r} 4x^2 + 13x - 12 \quad \begin{array}{l} 48 \\ \wedge \\ -3 \quad 16 \end{array} \\ \frac{4x^2}{-3x} \quad \frac{4x^2}{16x} \\ (4x-3)(x+4) \end{array}$$

18. $x^2 - 81$

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

19. $-8x^2 + 6x + 5$

$$\begin{array}{r} -1(8x^2 - 6x - 5) \quad \begin{array}{l} 40 \\ \wedge \\ 4 \quad -10 \end{array} \\ \frac{8x^2}{4x} \quad \frac{8x^2}{-10x} \\ (2x+1)(4x-5) \end{array}$$

20. $25y^4 - 10y^3 - 5y + 2$

$$\begin{array}{l} 5y^3(5y-2) - 1(5y-2) \\ (5y^3-1)(5y-2) \end{array}$$

21. $x^3 - 19x^2y + 70y^2$

Prime