

Algebra Factoring Quiz REVIEW

Simplify.

1. $(3x^2 + 1 - 2x) + (8x + 3x^2 - 2)$
 $3x^2 + 3x^2 - 2x + 8x + 1 - 2$
 $6x^2 + 6x - 1$

3. $\frac{24x^6y^4z - 8x^3y^5z^8 + 4x^3y^3z^2}{4x^3yz}$
 $6x^3y^3 - 2y^4z^7 + y^2z$

2. $(5x^3 - 8 + 4x) - (3x^2 - 4x^3 + 10)$
 $5x^3 - 8 + 4x - 3x^2 + 4x^3 - 10$
 $9x^3 + 4x^3 - 3x^2 + 4x - 8 - 10$
 $9x^3 + 3x^2 + 4x - 18$

4. $(4x - 3)(6x^2 - 2x - 1)$
 $24x^3 - 8x^2 - 4x - 18x^2 + 6x + 3$
 $24x^3 - 26x^2 + 2x + 3$

Factor completely. If not factorable, write "prime."

5. $x^2 - x - 20$ ~~$\begin{matrix} -1 & 4 \\ -5 & -20 \end{matrix}$~~
 $(x^2 - 5x) + (4x - 20)$
 $x(x - 5) + 4(x - 5)$
 $(x + 4)(x - 5)$

6. $x^2 + 16x + 64$ ~~$\begin{matrix} 16 & 8 \\ 8 & 64 \end{matrix}$~~
 $(x^2 + 8x) + (8x + 64)$
 $x(x + 8) + 8(x + 8)$
 $(x + 8)^2$

7. $x^2 + 19xy + 60y^2$ ~~$\begin{matrix} 19 & 4 \\ 15 & 60 \end{matrix}$~~
 $(x^2 + 4xy) + 15xy + 60y^2$
 $x(x + 4y) + 15y(x + 4y)$
 $(x + 15y)(x + 4y)$

8. $70a^4b^2c + 10ab^4c^2$
 $10ab^2c(7a^3 + b^2c)$

9. $9x - 4y$
 Prime

10. $4y^2 - 22y + 10$ ~~$\begin{matrix} -11 & -10 \\ 10 & -1 \end{matrix}$~~
 $2(2y^2 - 11y + 5)$
 $2((2y^2 - 10y) - y + 5)$
 $2(2y(y - 5) - 1(y - 5))$
 $2(2y - 1)(y - 5)$

11. $p^2 - 25$
 $(p + 5)(p - 5)$

12. $10x^2 - 46x - 20$ ~~$\begin{matrix} -23 & -25 \\ -50 & 2 \end{matrix}$~~
 $2(5x^2 - 23x - 10)$
 $2(5x^2 - 25x + 2x - 10)$
 $2(5x(x - 5) + 2(x - 5))$
 $2(5x + 2)(x - 5)$

13. $4x^2 - 100$
 ~~$2x \cdot 10$~~
 $4(x^2 - 25)$
 $4(x + 5)(x - 5)$

14. $x^3 - 4x^2 - 12x$ ~~$\begin{matrix} -4 & -6 \\ -12 & 2 \end{matrix}$~~
 $x(x^2 - 4x - 12)$
 $x(x^2 - 6x + 2x - 12)$
 $x(x(x - 6) + 2(x - 6))$
 $x(x + 2)(x - 6)$