

Name: Key

Date: _____

Unit 2- Quiz Review

Directions: Simplify the following exponents. Write all final answers with positive exponents only.

1. $\frac{20x^{10}}{5x}$ $4x^9$	2. $5a^2(3a^4)$ $15a^6$
3. $(y^4)^3$ y^{12}	4. $(xy^2)^2$ x^2y^4
5. $\frac{x^7}{x^{10}}$ $x^{-3} = \frac{1}{x^3}$	6. x^{-2} $\frac{1}{x^2}$
7. x^0 1	8. $x^{12} \cdot x^2$ x^{14}
9. $\frac{15x^2}{5x}$ $3x$	10. $\frac{27x}{3x^4}$ $9x^{-3} = \frac{9}{x^3}$

<p>11. $(4xy^3)^2$</p> $4^2 x^2 y^6 = 16x^2 y^6$	<p>12. $(3x^6)^3(5x)$</p> $3^3 x^{18} (5x)$ $27x^{18} (5x)$ $135x^{19}$
<p>13. $\left(\frac{5x}{6}\right)^2$</p> $\frac{5x^2}{6^2} = \frac{25x^2}{36}$	<p>14. $\frac{(2x^5)^3(x^3)^4}{4x^{-3}}$</p> $\frac{2^3 x^{15} x^{12}}{4x^{-3}} = \frac{8x^{27}}{4x^{-3}} = 2x^{30}$ <p>$27+3=30$</p>

Simplify the expressions below. Leave all answers in terms of x.

15. $(10x^2 + 2x - 9) - (5x^2 + 9)$

$$\begin{aligned} & 10x^2 + 2x - 9 - 5x^2 - 9 \\ & 5x^2 + 2x - 18 \end{aligned}$$

16. $(16x - 2) + (4x + 3)$

$$\begin{aligned} & 16x - 2 + 4x + 3 \\ & 20x + 1 \end{aligned}$$

17. $(16x^4 + 8x - 32) - (x^4 + x^2 - 5x - 20)$

$$\begin{aligned} & 16x^4 + 8x - 32 - x^4 - x^2 + 5x + 20 \\ & 15x^4 - x^2 + 13x - 12 \end{aligned}$$

18. $(15x^3 + 6x + 15) + (x^3 - 6x - 20)$

$$\begin{array}{r} 15x^3 + 6x + 15 + x^3 - 6x - 20 \\ \hline 16x^3 - 5 \end{array}$$

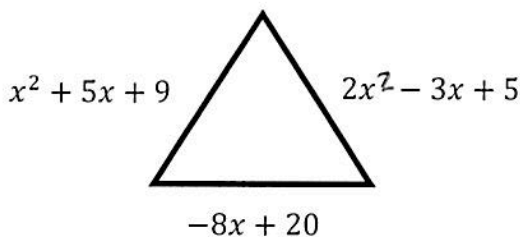
19. Find the solution of $7x-1$ subtracted from $10x+3$.

$$\begin{array}{r} (10x+3) - (7x-1) \\ \hline 10x+3-7x+1 \\ \hline 3x+4 \end{array}$$

20. What is $3x+3$ less than $15x-10$?

$$\begin{array}{r} (15x-10) - (3x+3) \\ \hline 15x-10-3x-3 \\ \hline 12x-13 \end{array}$$

21. Find the perimeter of the triangle below.



$$\begin{array}{r} x^2 + 5x + 9 + 2x^2 - 3x + 5 - 8x + 20 \\ \hline 3x^2 - 6x + 34 \end{array}$$

22. If the length of a rectangle in terms of x is $(2x^2 + x - 3)$, and its width is $(2x + 3)$, what is the perimeter of this rectangle?

$$\begin{array}{r} 2x^2 + x - 3 + 2x^2 + x + 3 + 2x^2 + x + 3 + 2x^2 + x + 3 \\ \hline 4x^2 + 6x \end{array}$$

23. State the phrases in which we need to switch the order of the terms when subtracting?

1. less than
2. subtracted from