

Algebra Homework: Week of Oct 15-19

Monday, Oct 15 → Study For Test Tomorrow!!

Topics Include: Laws of Exponents, Operations with Polynomials, Word Problems Involving Area/Perimeter, Radicals, Set Notation, Order of Operations

Tuesday, Oct 16 → Test Today

Wednesday, Oct 17

- Evaluate the following expressions when $x = 5$ and $y = 9$.
a. $5x + 5y$ b. $9y + x$ c. $2x + 3y$ d. $5(x + 1) + y$ e. $7x + 8(1+y)^2$
- Perform the indicated operations and simplify:
a. $\frac{(4x^3y^3)(5xy^2)}{2xy}$ b. $\frac{16x^3y}{-4xy^3}$ c. $\frac{a^5}{5a^{-10}b^{-12}}$ d. $(2x^2y^5)^5$
e. $4\sqrt{20} - 3\sqrt{5}$ f. $\sqrt{6}(2\sqrt{3} - 4\sqrt{2})$ g. $\frac{21}{\sqrt{3}}$
- Write the following in interval notation:
a. $-1 \leq x < 5$ b. $x \geq 9$ c. $x \leq 3$ or $5 \leq x < 30$
- Write an expression to represent the perimeter of a rectangle whose length is represented by $(5x - 1)$ and whose width is represented by $(2x + 1)$
- What is the area of a square whose side is $(3x + 2)$

Thursday, Oct 18

- Solve the following equations for the given variable and check:
a. $3x + 7 = -8$ b. $3x - x + 15 = 41$ c. $3(8 + b) = 27$ d. $8y - (8 + 6y) = 20$
e. $8n - 10 = 12n + 18$ f. $4 = \frac{2}{3}(x + 3)$ g. $13x + 8 + 8x = -9x - 22$
- Evaluate the following expressions when $x = -2$ and $y = 3$
a. $x^2 - 3y$ b. $3y^2 - 10(x + 4)$ c. $x^2 - 4x + 4$ d. x^y
- The area of a rectangular pool can be represented by $50p^2 - 100p + 500$ yards. If the length of the pool is 25 yards, what is the width of the pool in terms of p ?
- Subtract $5x^2 - 12x + 10$ from $6x^2 - 14x - 5$
- Perform the indicated operations and simplify:
a. $\frac{\sqrt{3}}{3\sqrt{6}}$ b. $\frac{(3x^2)^3(2x^4)}{3x^8}$ c. $\frac{12x^4 - 18x^2 + 6x}{6x}$ d. $(2x - 1)^2$

Friday, Oct 19

- Complete equation list from class.
- Perform the indicated operations and simplify:
a. $3\sqrt{125} - 5\sqrt{20}$ b. $(2\sqrt{7})(3\sqrt{8})$ c. $\frac{8x^{-4}y^6}{16x^3y^{-9}}$ d. $\frac{6x^8y^{10}}{12x^{12}y^7}$
- Evaluate $5x^2y - 10x + 3y$ when $x = -1$ and $y = 6$
- Sara bought 5 bags of M&M's and 2 bags of Frito's. If M&M's cost $(x + 65)$ cents and Frito's cost $(x - 25)$ cents, how much did Sara spend on M&M's and Frito's?
- If Set $A = \{\text{White, Blue, Orange, Yellow, Green, Pink}\}$, Set $B = \{\text{White, Black, Grey}\}$, and Set $C = \{\text{White, Beige, Black, Red, Grey}\}$. What is:
a. $A \cap B$ b. $A \cup B$ c. Complement of B in C
- The perimeter of a rectangle is $12x - 6$. If the width can be represented by $2x - 2$, what is the length in terms of x ?