

Algebra I Homework: Week of October 22-26

Monday, October 22

1. The sum of 42 and a number is 96. What is the number?
2. When 12 is subtracted from 3 times a number, the result is 24. Find the number.
3. If three times a number is increased by 22, the result is 14 less than 7 times the number. Find the number.
4. The second of three numbers is 6 more than the first. The third number is twice the first. The sum of the three numbers is 26. Find the numbers.
5. Subtract $3x^2 - 9x + 12$ from $7x^2 + 13x - 3$
6. Simplify:

a. $(4x - 2)(3x + 5)$

b. $\frac{16x^{-3}y^5}{32x^8y^{-2}}$

c. $(2x^8)^3$

d. $(2x - 1)^2$

e. $(4x)^0 - 4x^0$

f. $\frac{(3x^2)^4}{9x^5}$

g. $\frac{12x^3 - 44x^2 - 4x}{4x}$

Tuesday, October 23

1. Find two consecutive integers whose sum is -17.
2. Find four consecutive even integers whose sum is 42.
3. Find two consecutive odd integers such that 4 times the larger is 29 more than 3 times the smaller.
4. Four times the quantity of a number added to 10 results in 20. What is the number?
5. Simplify:

a. $2\sqrt{180} - 3\sqrt{125}$

b. $(2\sqrt{12})(3\sqrt{5})$

c. $\frac{\sqrt{3}}{2\sqrt{8}}$

6. Write in interval notation:

a. $-3 < x \leq 4$

b. $x \leq 1$ or $x > 6$

c. x is any number except 5

Wednesday, October 24

1. Find three consecutive even integers such that the sum of the smallest and twice the second is 20 more than the third.
2. The greater of two numbers is one more than twice the smaller. Three times the greater exceeds 5 times the smaller by 10. Find the numbers.
3. The third side of a triangle is one more than twice the first. The second side is one more than the first. If the perimeter of the triangle is 18, what are the dimensions of the triangle?
4. The numerator of a fraction is two less than the denominator. If one is added to the numerator, and 3 added to the denominator, the fraction is equivalent to $\frac{1}{2}$. What is the original fraction?
5. Subtract $2x^2 - 8x + 7$ from $5x^2 + 3x + 10$
6. Given set $A = \{\text{Dogs, Cats, Mice, Birds}\}$ and Set $B = \{\text{Cats, Birds, Fish}\}$ identify:
 - a. $A \cup B$
 - b. $A \cap B$
 - c. A Subset of A

Thursday, October 25

1. In a molecule of water, the ratio of hydrogen to oxygen is 2:1. If there are 16 molecules of hydrogen, how many molecules are there all together?
2. Two consecutive odd integers have a sum of 48. What are the two odd integers?
3. In an isosceles triangle, a base angle is six more than three times the vertex angle. How many degrees are in each angle of the triangle?
4. In a scalene triangle, the measure of the second side is six more than three times the first side, and the third side is twice the second side. If the perimeter is 38 inches, how long is each side?
5. In correct scientific notation what is the product of 4.5×10^4 and 6.2×10^8 ?
6. In a right triangle, one leg has a measure of 6 inches, and the hypotenuse has a measure of 9 inches. What is the length of the remaining leg in simplest radical form?
7. Solve for r:

a. $0.8r = 0.2r + 24$

b. $\frac{r}{3} - \frac{r}{6} = 2$

c. $3(2r + 1) - 7 = 50$

Friday, October 26

1. Solve for y:
a. $6y - b = m$ b. $4d - xy = b$ c. $q(p + y) = 1$
2. Solve for B: $\frac{(B+b)h}{2} = A$
3. Solve each equation for x:
a. $-2x - 39 = 5y - 18$ b. $10x - (3x - 11) = 32$
c. $0.22 = -0.06 + 0.04(2x + 3)$ d. $\frac{x}{4} - \frac{x-5}{6} = \frac{x}{2}$
4. If 10 times a certain number is increased by 4, the result is 12 more than 9 times the number. Find the number.
5. The difference between two numbers is 4. If four times the smaller is reduced by the larger, the result is 5. What are the numbers.
6. What three consecutive odd integers have a sum of 27?

Test Next Tuesday – October 30

Solving Equations – with decimal, fractional, and integral coefficients

Translating Verbal Sentences into Equations – consecutive integers, ratios, triangles

Old Material – Radicals, Set Notation, Operations with Polynomials