

HOMEWORK 13

January 17, 2021

*I would like to remind you that the homework should be done on a separate piece of paper.
There is not enough space on this handout to show all work. **You must show all steps!***

1. Convert to scientific notation:

a) $4,070,000 =$

b) $36,400,000 =$

c) $0.000000028 =$

d) $0.000000000902 =$



2. Convert to standard form:

a) $3.0 \times 10^8 =$

b) $1.36 \times 10^{-6} =$

c) $3.24 \times 10^{-10} =$

d) $6.65 \times 10^{12} =$

3. Multiply or divide. Make sure that your final answer is written in the scientific notation.

a) $(3 \times 10^{-8})(1.2 \times 10^4) =$

b) $(2.1 \times 10^{12})(6.1 \times 10^{-7}) =$

c) $\frac{2.5 \times 10^{-5}}{5 \times 10^4} =$

d) $\frac{1.8 \times 10^8}{3 \times 10^{-10}} =$

e) $\frac{(5 \times 10^7)(9 \times 10^{-3})}{3 \times 10^{-2}} =$

f) $\frac{2 \times 10^{10}}{(8 \times 10^{-3})(5 \times 10^{12})} =$

4. Simplify each expression by distributing and/or combining like terms.

a) $\frac{1}{2}(8a + 10b) - \frac{1}{3}(15a - 3b) =$

b) $-\frac{1}{20}(5x - 4y) - 6\left(-\frac{1}{30}x - \frac{1}{24}y\right) =$

b) $(y + 2)^2 + 6(y - 3) + 5 =$

d) $(a - 4)^2 + 5(a - 4)(a + 2) + 6(a + 2)^2 =$

5. Compute:

$$\frac{(3.4 - 1.275) \cdot \frac{16}{17}}{\frac{5}{18} \cdot \left(1\frac{7}{85} + 6\frac{2}{17}\right)} + 0.5 \cdot \left(2 + \frac{12.5}{5.75 + \frac{1}{2}}\right) =$$

6. Solve:

1) $0.05x + 10 = 0.06(x + 5)$

2) $0.06(x - 5) = 0.04(x + 8)$

3) $\frac{7y}{12} - \frac{1}{4} = 2y - \frac{5}{3}$

4) $\frac{3m+1}{4} = 2 - \frac{3-2m}{6}$

Solve the following word problems by writing an equation. Make sure to show all steps!

7. Andrew has two favorite numbers. The sum of these numbers is 104. The larger number is 1 less than twice the smaller number. Find which numbers Andrew likes so much.
8. A dealer sold 200 tennis racquets. Some were sold at \$18 each, and the rest at \$33 each. The total receipts from these sales were \$4,800. How many racquets did the dealer sell at \$18 each?
9. If one-half of a number is decreased by 20, the result is 35. What is the original number?

