HOMEWORK 2

September 24, 2017

(All homeworks are to be written on a separate quadrille pa per with sufficient details about how the problem was solved, unless clearly indicated that it is a practice page. Mathematical notations will be good, essays are not expected. Try solving every problem in the homework. Some problems are more difficult than the others. It is normal if you need to approach a problem several times to solve it. More difficult problems are marked with a *******. If you didn't solve the problem, but tried, put your attempts in writing. It will give an indication of the direction you were heading into. Your homework solution is a necessary feedback to understand which material requires more attention.)*

1. Compute:

a) –-7 – (–-9) =

b) – (-6 + (-4)) =

c) -3 – (7+ (-6)) =

d) -3 - (-4) + (-5) =

e) -(-(2) + 5) =

f) -3/4 – (-1 ¼) =

2. Calculate, simplify, use primary factorization if needed:

(a) $\frac{3}{4} \cdot \frac{2}{3} =$

(b) $\frac{5}{9} \cdot \frac{3}{15} =$

(c) $\frac{9}{20} \cdot \frac{10}{27} =$

(d) $\frac{9}{2} \div \frac{21}{2} =$

(e) $6 \div \frac{2}{3} =$

(f) $7 \div \frac{14}{3} =$

(g) $\frac{2}{9} + \frac{5}{6} =$

(h) $2\frac{5}{8} - \frac{3}{4} =$

(i) $\frac{7}{12} + \frac{10}{27} =$

(j) $\frac{5}{16} + \frac{3}{64} =$

(k) $\frac{1}{24} + \frac{1}{40} =$

(l) $2\frac{2}{9} - \frac{1}{3} =$

a + b = b + a	commutative law for addition
ab = ba	commutative law for multiplication
a + (b + c) = (a + b) + c	associative law for addition
a(bc) = (ab)c	associative law for multiplication
a(b + c) = ab + ac	distributive law

These laws can be used for simplifying calculations and rewriting expressions in a simpler form.
Some more rules for simplification:

a(b – c) = ab – ac	distributive law
a – (b + c) = a – b – c	distributive law
a – (b – c) = a – b + c	distributive law

3. Open parenthesis, simplify:

a). $2(2x - 1) =$

b). $(x + 7) \cdot 3 =$

c). $5(3w - 5) =$

d) $2(2x - 1) + (x + 7) \cdot 3 =$

4. Solve equations: *(First - open parenthesis, second - collect all Xs at the left, and numbers at the right, find X). Do not forget to do the check by plugging in found valued for X (roots) into the original equation and verifying that left part is equal to the right part:*

   (a) $3(3x - 1) = 2(2x + 11)$ (b) $5(x - 2) = 3x + 20$

In class we've solved several world problems. Remember how we approached them:

1) Understand what's given (GIVEN:…..)
2) Understand the question
3) Outline solution steps (if equation, what is X, etc)
4) Solve the equation (X = …)
5) Check equation
6) Write an answer to the question in the problem. (ANSWER …)

FOR problems below TRY Equation first. If you can't come up with the equation, use guess and check.

5. An apple costs 5 cents, and an orange - 7 cents. Marina bought some apples and oranges, 20 fruit in all, and paid $1.14. How many apples and how many oranges did she buy?

6. Son is 5 years old and his father is 30 years older. How many years later will the father be four times older than his son?

7. For every $3 Marisa spends, Andie spends $5. Andie spends $120 more than Marisa does. How much does Andie spend?

8. 3 cats and 4 kittens together weigh 24 pounds, whereas 4 cats and 3 kittens weigh 25 pounds. How much does a cat weigh? A kitten?