MATH 4: HOMEWORK 4
JANUARY 26, 2020

Please bring ruler, protractor, and compass to the class.

1. Compute: *[Are there operations which require immediate transformation to irregular form? For which operations you think about common denominator and why?]*

$2\frac{7}{24} + 1\frac{7}{16} =$ $\quad$ $2\frac{7}{24} - 1\frac{7}{16} =$

$2\frac{7}{24} \cdot 1\frac{7}{16} =$ $\quad$ $2\frac{7}{24} \div 1\frac{7}{16} =$

2. Solve equations : *[first open parenthesis, second move all Xs to the left, numbers to the right, find X]*

$13x + 11 = 2(6x + 1)$ $\quad$ $-2x + 9 = -4x + 25$

$3(3x - 1) = -2x + 12$ $\quad$ $-x + 8 = -4x - 1$

3. Prajesh and Clara are eating a large bag of candy. Prajesh can eat all of it in 15 minutes; Clara can eat all of it in 10 minutes. How fast can they eat it together?

4. An above ground pool can be filled by RED pipe in 5 hours and emptied by BLUE pipe in 7. How long it will take to fill up the same pool if you open RED pipe in and BLUE pipe out. Is it possible at all?

5. A seventh-grader named Alex holds all his socks in the same drawer: 20 black socks, 12 white socks and 4 green socks. His younger brother named Joe likes to play in the drawer and mixes all sock during his game.
    a. How many socks does Alex have to get from the drawer (without looking) to be certain to get at least one matching pair?
    b. How many socks does he have to get from the drawer (without looking) to be certain to get at least three matching pairs, all of the same color?
    c. How many socks does he have to get from the drawer (without looking) to be certain to get at least one pair of white socks?

6. Using pencil, ruler and quadrille paper construct:
    a. Square ABCD with the side 3 cm. Measure the length of diagonal AC.
    b. Rectangle SDFG with sides 30 mm, and 50 mm. Measure the length of diagonal SF. Using protractor measure the angles of the triangle SDF: ∠DSF, ∠SDF, ∠DFS.

7. Using compass draw a circle with radius 4 cm and center O. Using ruler and pencil draw a diameter LM of this circle. Draw 2 (two) more circles with radius 4 cm and centers in L and M. You should have 3 total circles.