

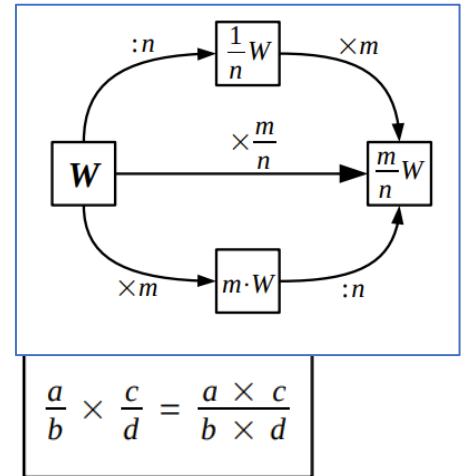
MATH 4: Homework 16

Due February 3, before the start of the class

Homework must be submitted on time—at least 15 minutes before the start of the class.

Homework will not be graded after the solutions are posted on Google Classroom.

Write the answers on separate sheets of paper, not between the lines.



1. Calculate and present in a simpler form

a) $2 \times \frac{1}{6} =$ $3 \times \frac{5}{6} =$

b) $\frac{1}{2} \times \frac{2}{7} =$ $\frac{1}{2} \times \frac{6}{7} =$

c) $9 \times \frac{5}{12} =$ $6 \times \frac{5}{12} =$

d) $\frac{3}{4} \times \frac{2}{3} =$ $\frac{2}{5} \times \frac{15}{2} =$

2. Show that the left side of the expression is equal to the right side by opening the parenthesis and simplifying the left side. Remember that: $n = \times \frac{1}{n}$

a) $(2x + 6):4 - (3 - x) \cdot \frac{1}{2} = x$

b) $(x + 2y - 4) \cdot \frac{1}{3} + (4x + 2y + 2):6 = x + y - 1$

c) $(3x + 4y - 3):2 - \frac{1}{2} \cdot (x + 2y) - \left(y - \frac{1}{2}\right) = x - 1$

3. Solve the equations. Remember that: $n = \times \frac{1}{n}$

a) $\frac{3}{4} = \frac{(x-9)}{16}$ Hint: multiply both sides by 16 first

b) $\frac{(32-y)}{24} = \frac{5}{8}$

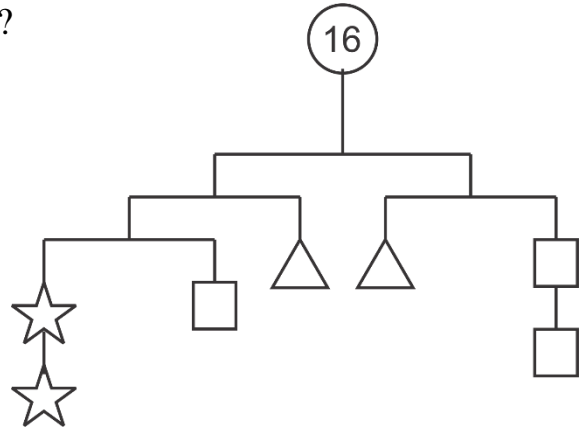
c) $(4x - 8):2 - \frac{1}{2} \cdot (2x - 6) = 9$

4. A conveyor has processed 100,000 pizzas in a factory by putting the following ingredients on top of pizzas in this order:

- i. Canadian bacon onto every 8th pizza
- ii. Pieces of pineapple onto every 9th pizza
- iii. Green peppers onto every 12th pizza.

- a) How many of the pizzas have all three toppings?
- b) How many pizzas have Canadian bacon and green peppers but not pineapple?

5. In the picture below, every arm of the balance is in equilibrium. (The horizontal bars are suspended at their midpoints.) Identical shapes have identical masses. The total weight is 16. What is the weight of each shape?

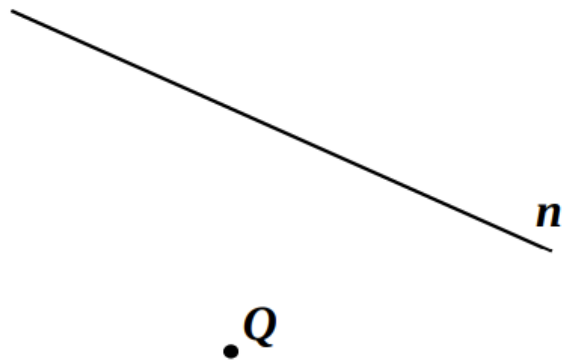


6. (see CW 16)

Use a straight edge and a compass to plot straight line $QX \parallel n$:

Procedure:

1. _____
2. _____
3. _____



7. * (Optional) Place point **D** so that you reconstruct a parallelogram **ABCD** using only a compass and a straight edge. Be sure that segment **CB** \parallel **DA** and **BA** \parallel **CD**.

Suggestion: first, draw a line that passes through A and B. Then draw a parallel line through C as we did in class.

Write your Procedure steps:

1. _____
2. _____
3. _____
4. _____
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