

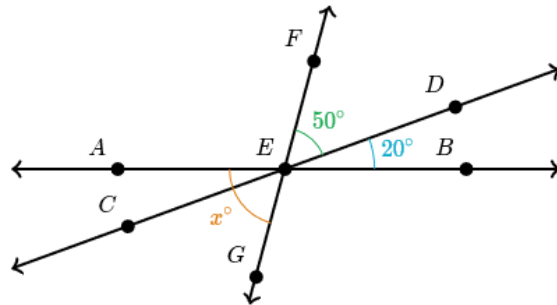
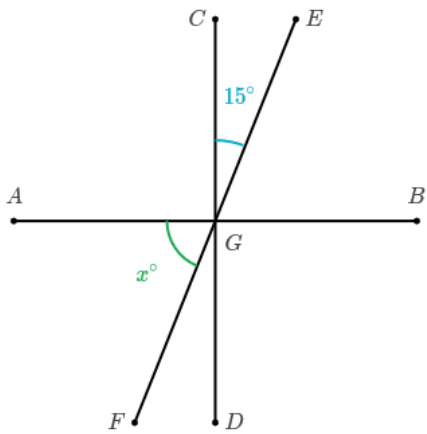
Math 4. Classwork # 11. REVIEW



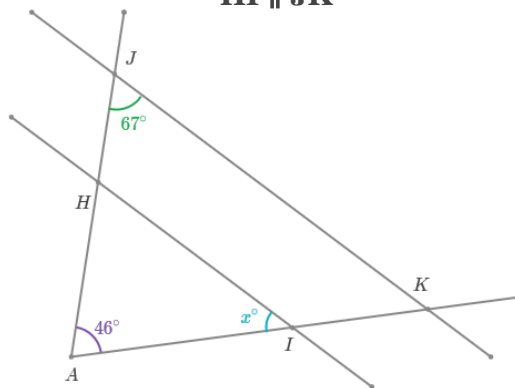
A swimming pool can be filled with one pipe in 10 hours. When full, the pool can be drained out with another pipe in 20 hours. How long it will take to fill up the pool if the draining pipe is open?

1. Geometry

Given that $\overline{AB} \perp \overline{CD}$



$\overline{HI} \parallel \overline{JK}$



2. Simplify the following expressions:

a) $m - (n + m) =$

c) $a - (a - b) =$

b) $-(n - x) - x =$

d) $p + (-m + k - p) =$

e) $-a - (m - a + p) =$

f) $-(m - a) - (k + a) =$

$$g) m + (k - a - m) =$$

$$h) m - (a + m) - (-a - m) =$$

3. Simplify the following expressions:

$$a) 2a + 3(a + b) - 3b =$$

$$b) 5(m - 3n) + 14n =$$

$$c) 10b - (c - b) + c =$$

4. Five hamsters will eat 5 bags of hamster food in 5 days. How many days will it take for 10 hamsters to eat 10 bags of the food?

5. Compute using the distributive property, factoring out the common factor:

$$a) 6 \cdot 65 + 6 \cdot 35 =$$

$$b) 356 \cdot 73 + 644 \cdot 73 =$$

$$c) \frac{1}{2} \cdot 387 + \frac{1}{2} \cdot 613 =$$

6. Factorize the following expressions:

$$a) \frac{1}{3}a - \frac{1}{3}b =$$

$$b) 10 + 15 =$$

$$c) 5a - 3a =$$

7. Solve the following equations:

$$\frac{1}{3}x + 12 = x$$

$$6x - 14 = -5x - 3$$

$$4(2y + 1) = 2(y - 13)$$

8. Calculate:

$$11 + (-5) =$$

$$8 - (-6) =$$

$$-15 - (-8) =$$

$$-11 + (-7) =$$

$$8 \cdot (-8) =$$

$$-7 \cdot (-6) =$$

9. Using the distributive property rewrite the following expressions without parenthesis:

$$5x(3 + y) =$$

$$2 \cdot (2 + x) =$$

$$\left(\frac{1}{2} - a\right) \cdot 2 =$$

$$(a + c) \cdot 3 =$$

$$x(5a + b) =$$

10. Jane and Mary are planting flowers. Jane can plant all flowers in 2 hours, Mary can do it in 3 hours. How many hours they need to plant all flowers together?

11. Jane and Mary are doing fall clean up in a backyard. Mary can do the job in 6 hours; together they can do it in 4 hours. How many hours does Jane need to clean up the backyard?

Homework #9 review

4. Compute:

$$\frac{7}{16} + \frac{9}{10} \times \frac{5}{14} \times \frac{7}{12} =$$

$$1 - \frac{9}{16} \div \frac{9}{4} - \frac{1}{12} =$$

8. Simplify:

$$(c) \frac{5(39-a)+b(39-a)}{5+b} = \frac{\cancel{(5+b)}(39-a)}{\cancel{5+b}}$$

$$(d) \frac{a-ab}{1-b} = \frac{a\cancel{(1-b)}}{\cancel{1-b}}$$

12. The rope cutting problem:

You need to cut $\frac{1}{2}m$ from a rope $\frac{2}{3}m$ long. You don't have any tools to do the measurements.

How you can do it? Which part of your original $\frac{2}{3}m$ rope would you need to cut?

In other words what fraction is $\frac{1}{2}$ of $\frac{2}{3}$?

$$\frac{1}{2} : \frac{2}{3} = \frac{1}{2} \times \frac{3}{2} = \frac{3}{4} \quad \text{You will need to cut } \frac{3}{4} \text{ of the } \frac{2}{3}m \text{ rope}$$