

Homework # 25

1. You just got a free ticket for a boat ride, and you can bring along 2 friends! However, you have 6 friends who want to come along. **How many different groups of friends could you take with you?**
2. William is packing his bags for his vacation. He has 8 unique books, but only 5 books fit in his bag. **How many different sets of 5 books can he take?**

3. Compute:

$$(-35) \times \frac{-1}{7} =$$

$$17 \times \frac{-1}{-17} =$$

$$\frac{-35}{\frac{5}{-7}} \times \frac{-1}{7} =$$

4. Two towns on the opposite banks of the same river are 30 km apart. It takes a motor-boat 2 hours to get from one side to another and 1 hour 30 min to return. Assuming the boat is traveling with the same speed (call it x) and the river's current is the same (call it y) try to write down system of equations for x and y and to solve it for x and y .

5. Solve equations:

$$(-5)x + (-34) = -(-16)$$

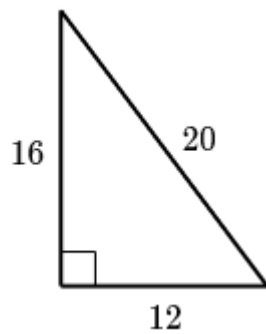
$$-7 + (-14)x = -(-441)$$

$$0.25(x + 0.2) = 10$$

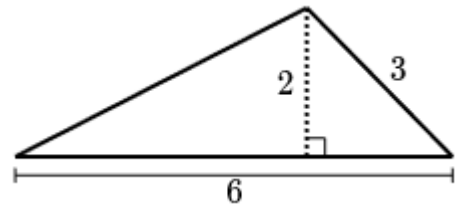
$$3.14x + 5 = 5.628$$

6. Find the area (S) of the triangles

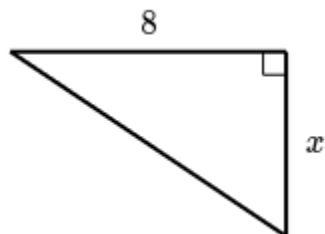
A



B



7. The area of the triangle depicted below is 24 cm^2 . Find x .



8. Please write down what is the most confusing topic we discussed this year. If nothing comes to mind – write down what topic you would like to review or learn

9. Compute:

$$a) 50 (0.3 + 0.3 - 0.2) =$$

$$b) (0.456 - 0.356) 748 =$$

$$c) 76 (3.14 - 0.23) - 0.23 (76 + 10) =$$

10. Simplify:

$$\frac{1}{(1-x)x} - \frac{1}{x} - \frac{1}{1-x} =$$

11. Solve the following system of equations

$$\begin{cases} x + 3y = 11 \\ 10x + 20y = 90 \end{cases}$$

12. Calculate:

$$\frac{5^{10} - 5^9}{5^8} =$$

$$15 - (16 \times (-2)^{-3}) =$$

$$\frac{3^8 \cdot 8^{11} \cdot 12^2}{27^3 \cdot 16^8} =$$