

1. Simplify

$$x + 2a + 11 = 11 - x - a$$

2. How will the product change if?

- a. one factor increases two times
- b. one factor is three times smaller
- c. one factor increases 2 times and second factor decreases 8 times
- d. one factor increases 2 times and another factor increases 3 times
- e. one factor decreases 2 times and another factor decreases 3 times

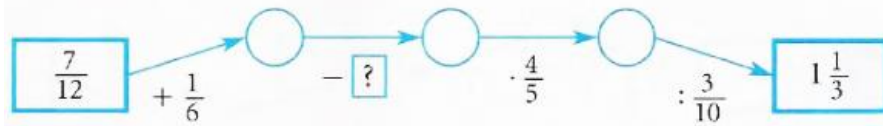
3. Remove parenthesis

$$7(3t - 5 + 4g) =$$

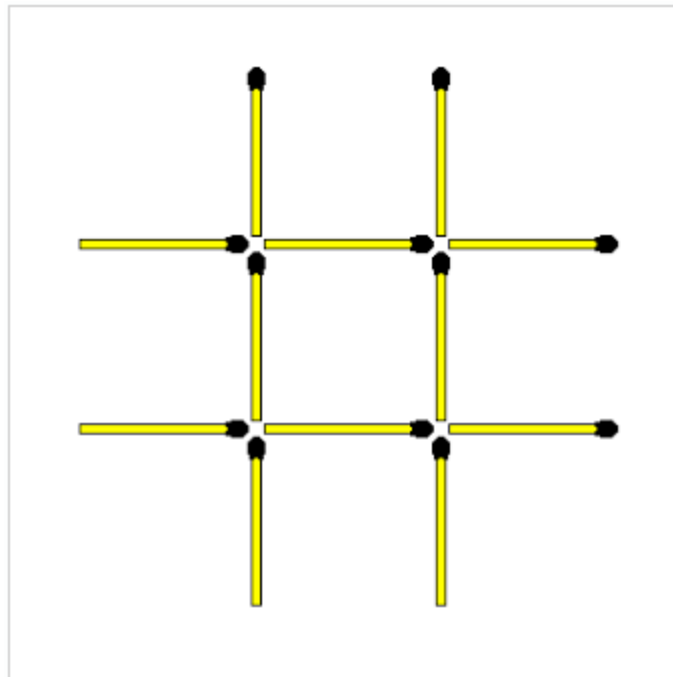
4. Solve the following equations:

$x + 4 = -1$	$5 - x = -3$	$x - (-4) = 0$
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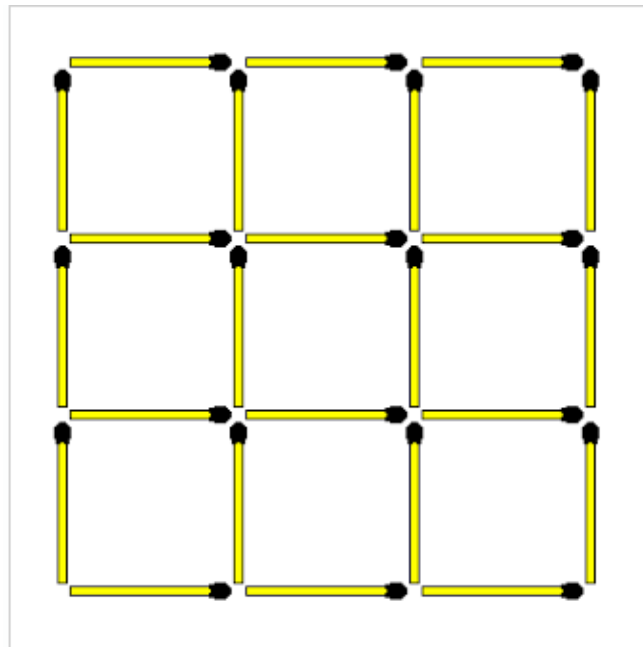
5. *What number should be placed instead of “?”



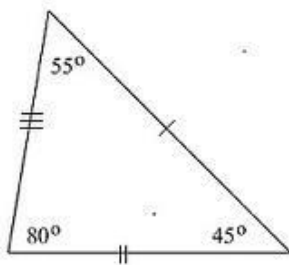
6. Move 3 sticks to create 3 squares. All squares must be equal in size.



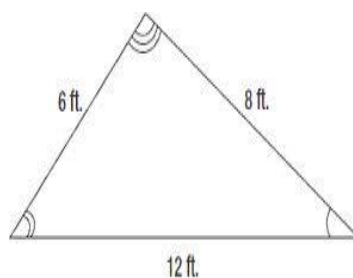
7. Remove 4 matchsticks to leave only 5 squares, ALL EQUAL IN SIZE



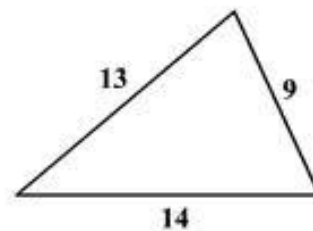
8. For the given triangles make the correct fit of angles and sides. The figures are not to scale, so don't try measuring angles with the protractor.



a) 18cm, 20cm, 14cm

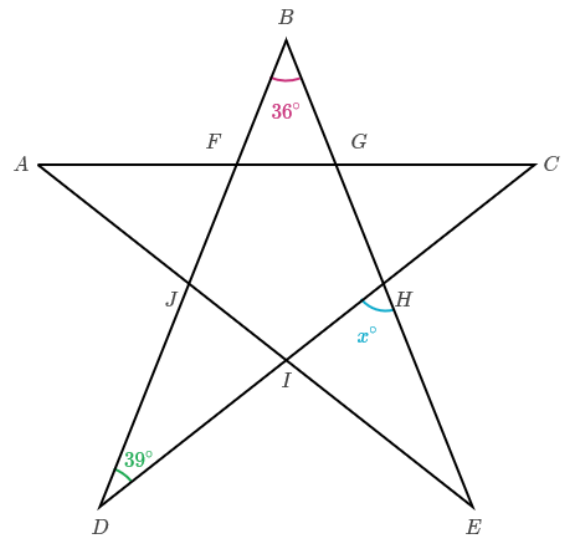
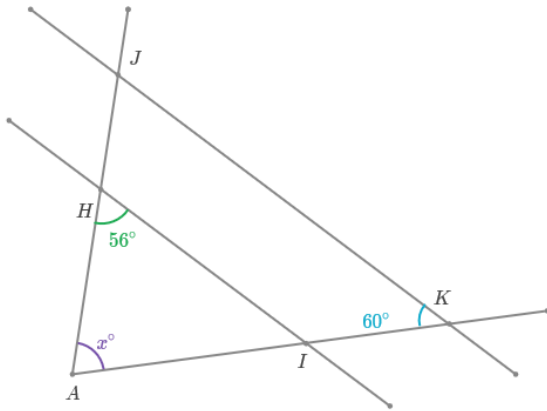
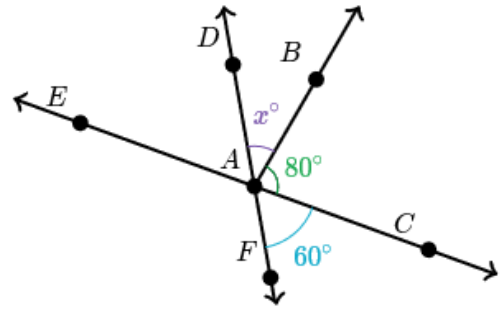
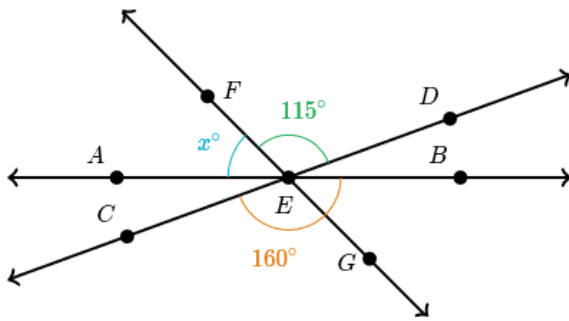


b) 50° , 85° , ?



c) 28° , 72° , ?

9. For the given intersecting lines find x . The figures are not to scale, so don't try measuring angles with the protractor.

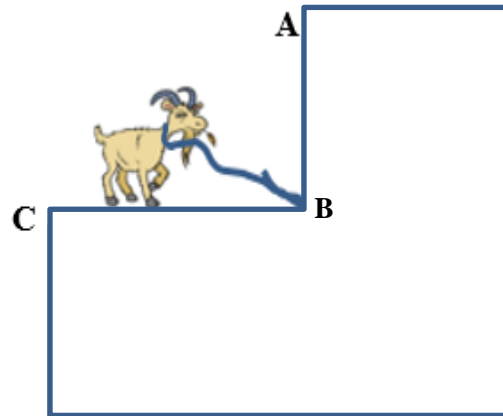
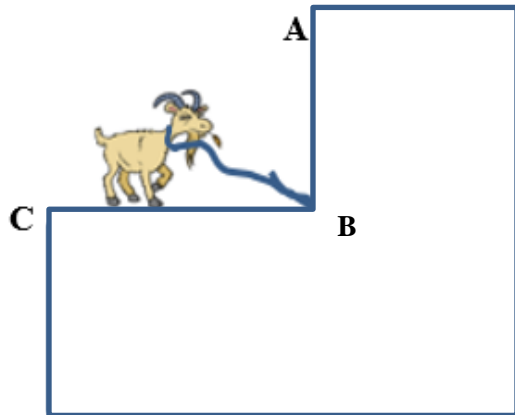


10. Son is 5 years old and his father is 30 years older. How many years later will the father be four times older than his son?

11. A goat is tied to a stake in the corner of a building with a 5-yard-long rope. What shape it will graze if the lengths of the walls are as follows:

1. $AB = 6$ yards and $BC = 7$ yards

2. $AB = 4$ yards and $BC = 5$ yards



12. Solve the following equations (hint: do the substitution):

Example: $(y + 5) \div 3 = 7$

substitution: $y + 5 = z$

$$z \div 3 = 7$$

$$z = 7 \times 3 = 21$$

$$y + 5 = 21$$

$$y = 21 - 5 = 16 \quad \text{Check: } (16 + 5) \div 3 = 7$$

a) $(x - 12) \times 8 = 56$

b) $124 \div (y - 5) = 31$