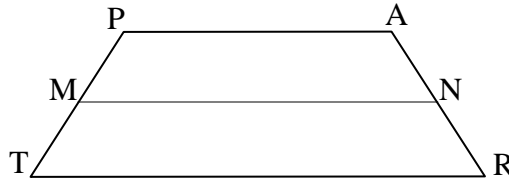


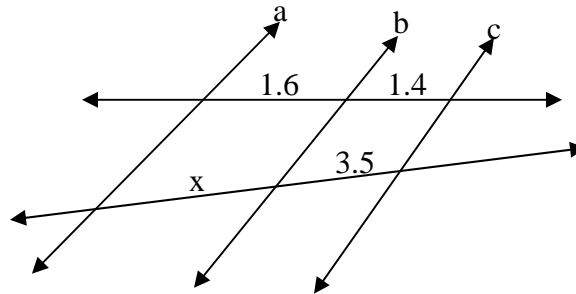
1. Tell whether given statement is ALWAYS, or SOMETIMES or NEVER true.
 - a. Two congruent adjacent angles are right angles.
 - b. The diagonals of a rhombus are congruent.
 - c. All regular pentagons are similar.
 - d. An obtuse triangle is similar to a right triangle.
 - e. A rectangle is equiangular.
 - f. A trapezoid has congruent bases.
 - g. The diagonals of a square divide the square into four congruent isosceles right triangles.
 - h. If two triangles are similar, then they are congruent.
 - i. If two angles of a trapezoid are congruent, then it is an isosceles trapezoid.
 - j. If the diagonals of a quadrilateral are perpendicular, then it is a kite.
2. Find the perimeter of a rhombus with diagonals 10 and 24.
3. The ratio of the measures of the angles of a triangle is 1:4:7. Find the measure of the largest angle.

4. Find x :

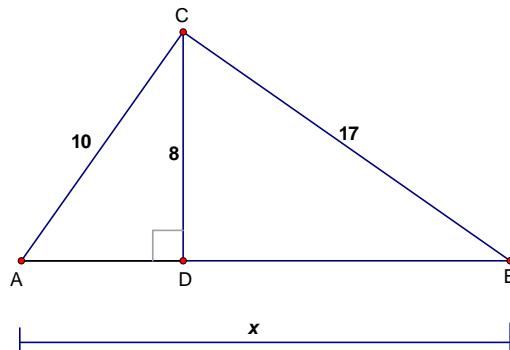
- a. Given: Trapezoid PART with median \overline{MN} , $PA = 3x - 6$, $MN = x + 5$, $TR = 5x - 2$



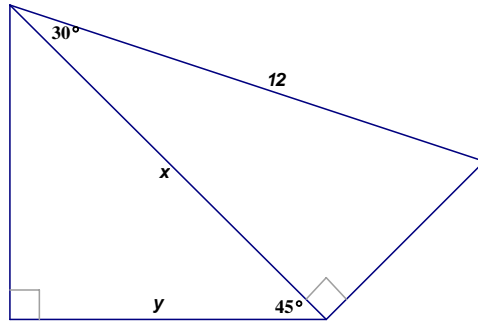
- b. Given: $a \parallel b \parallel c$



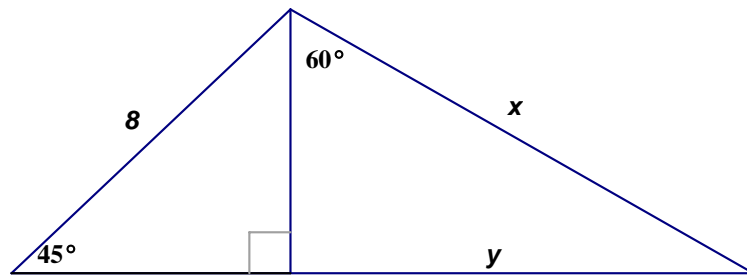
c.



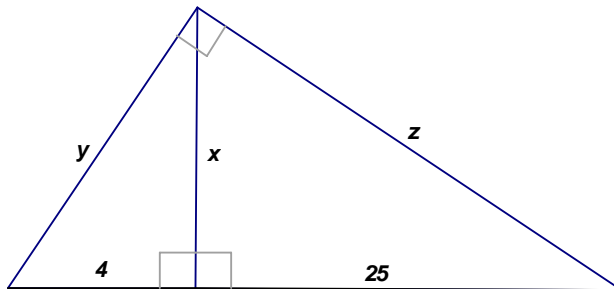
5. Find x and y .
a.



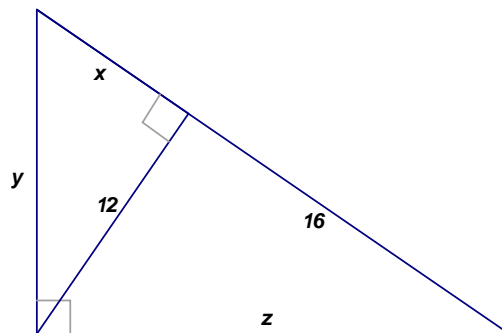
- b.



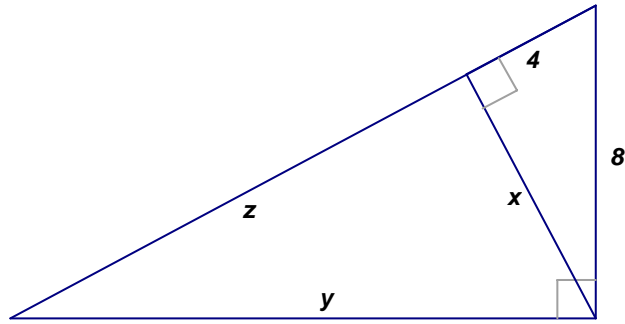
6. Find x , y and z .
a.



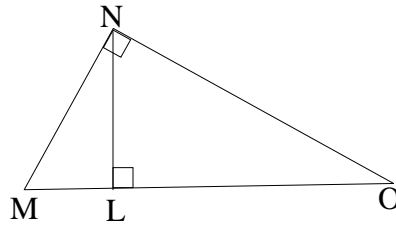
- b.



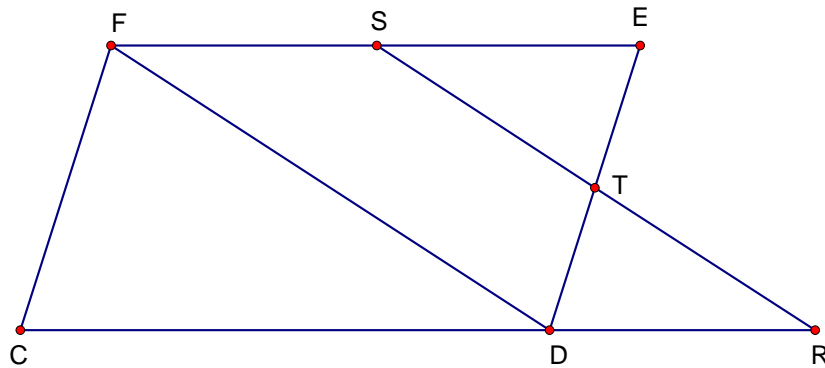
c.



7. Given: $\overline{MN} \perp \overline{NO}$, $\overline{MO} \perp \overline{LN}$
 Prove: $MN \cdot LN = ML \cdot NO$



8. Given: $\square CDEF$, S and T are the midpoints of \overline{EF} and \overline{ED}
 Prove: $\overline{SR} \cong \overline{FD}$



Answer Key:

1. a. S b. S c. A d. N e. A f. N g. A h. S i. S j. S

2. Perimeter = 52

3. Measure of largest angle is 105° .

4. a. $x = 3$ b. $x = 4$

c. $x = 21$

5. a. $x = 6\sqrt{3}$, $y = 3\sqrt{6}$

b. $x = 8\sqrt{2}$, $y = 4\sqrt{6}$

6. a. $x = 10$, $y = 2\sqrt{9}$, $z = 5\sqrt{29}$

b. $x = 9$, $y = 15$, $z = 20$

c. $x = 4\sqrt{3}$, $y = 8\sqrt{3}$, $z = 12$

7. Proof:

STATEMENTS	REASONS
1. $\overline{MN} \perp \overline{NO}$, $\overline{MO} \perp \overline{LN}$	1. Given
2. $\angle MLN \cong \angle NLO$	2. Definition of \perp lines
3. $\angle M$ and $\angle O$ are complementary, $\angle LNO$ and $\angle O$ are complementary	3. Acute angles of right triangles are complementary
4. $\angle M \cong \angle LNO$	4. \angle s complementary to the same \angle are congruent
5. $\triangle MLN \sim \triangle NLO$	5. AA
6. $\frac{MN}{NO} = \frac{ML}{NL}$	6. CSSTP
7. $MN \cdot LN = ML \cdot NO$	7. Means-Extremes Property

8. Proof:

STATEMENTS	REASONS
1. $\square CDEF$, S and T midpoints of \overline{EF} and \overline{ED} , respectively	1. Given
2. $\overline{ES} \cong \overline{SF}$, $\overline{ET} \cong \overline{TD}$	2. Definition of midpoint
3. $\angle STE \cong \angle RTD$	3. Vertical angles are congruent
4. $\overline{FS} \parallel \overline{DR}$	4. Opposite sides (part or extension) of a parallelogram are parallel
5. $\angle E \cong \angle RDT$	5. ITPLACBAT, then alternate interior angles are congruent.
6. $\triangle STE \cong \triangle RTD$	6. ASA
7. $\overline{SE} \cong \overline{RD}$	7. CPCTC
8. $\overline{SF} \cong \overline{RD}$	8. Transitive Prop of \cong
9. FSRD is a parallelogram	9. If 2 sides of a quadrilateral are both \cong and \parallel , then it is a parallelogram.
10. $\overline{SR} \cong \overline{FD}$	10. Opposite sides of a \square are \cong .