Geometry
Similarity Test Review #2

Name _____

Topics: Ratios and Proportions	Proving Lines are Parallel	Transversal/Angle Relationships
Similar Polygons	Triangle Similarity	Triangle Proportionality Theorem
Midsegments of Triangles	Parallel Lines and Proportional Parts	

Solve each proportion:

1. $\frac{2}{5} = \frac{x}{40}$

2. $\frac{15}{3} = \frac{x-3}{5}$

3. $\frac{x+1}{3} = \frac{7}{2}$

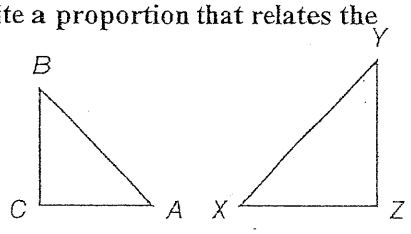
4. $\frac{3x-5}{4} = \frac{-5}{7}$

5. $\frac{x+2}{3} = \frac{8}{9}$

6. $\frac{x-2}{4} = \frac{x+4}{2}$

Identify Similar Polygons Similar polygons have the same shape but not necessarily the same size.

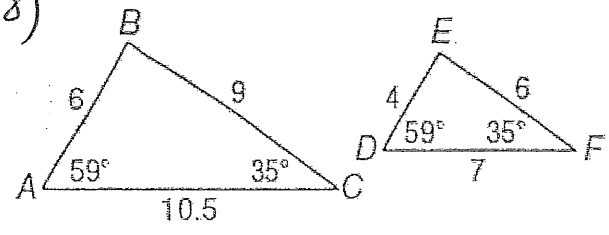
7) **Example 1: If $\triangle ABC \sim \triangle XYZ$, list all pairs of congruent angles and write a proportion that relates the corresponding sides.**



Use the similarity statement.
Congruent angles:
Proportion:

Determine whether each pair of figures is similar. If so, write the similarity statement and scale factor. If not, explain your reasoning.

8)



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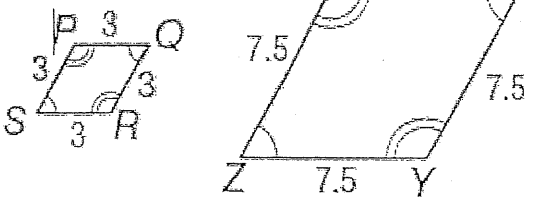

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Triangles Similarity

10)

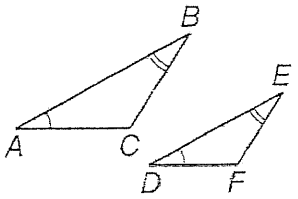
Name the Postulates and theorems that prove triangle similarity: _____

_____

_____

Determine whether the triangles are similar. If so, write a similarity statement. Explain your reasoning.

11.



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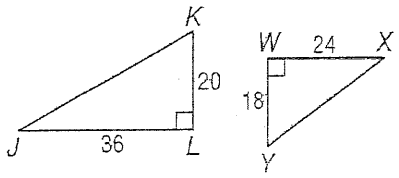

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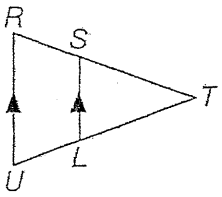

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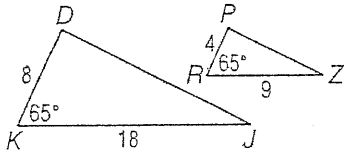

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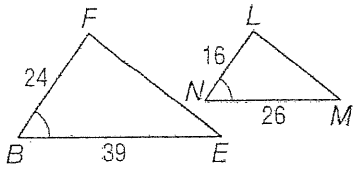

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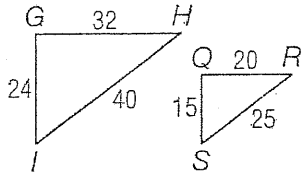
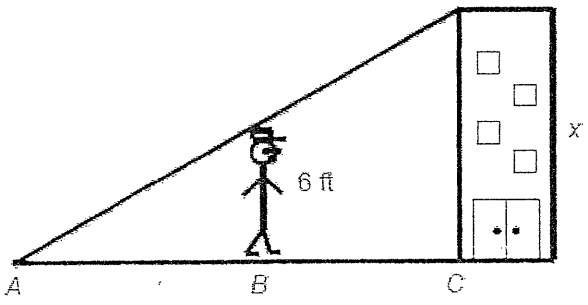


17. In the diagram, AB = 18 ft, BC = 12 ft. How tall is the building?



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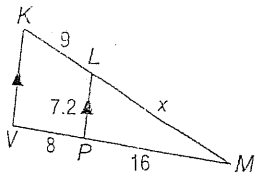
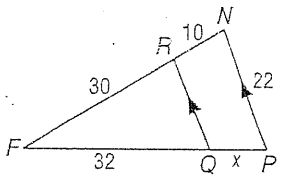
'LGEBRA Identify the similar triangles. Then find each measure.

18. LM



19. QP



ALGEBRA Find the value of *x*.

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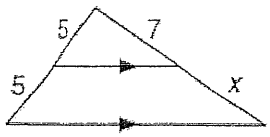

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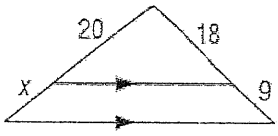

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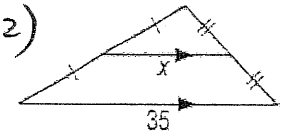
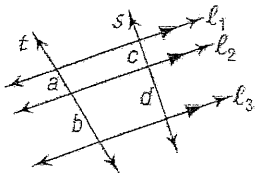
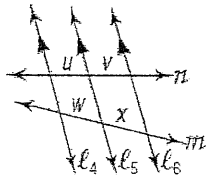


Parallel Lines and Proportional Parts

Proportional Parts with Parallel Lines When three or more parallel lines cut two transversals, they separate the transversals into proportional parts. If the ratio of the parts is 1, then the parallel lines separate the transversals into congruent parts.



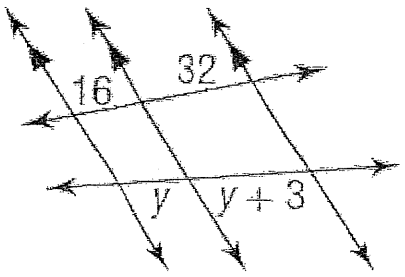


If $\ell_1 \parallel \ell_2 \parallel \ell_3$, then $\frac{a}{b} = \frac{c}{d}$.

If $\ell_4 \parallel \ell_5 \parallel \ell_6$ and $\frac{u}{v} = 1$, then $\frac{w}{x} = 1$.

23)

Find the value for y.



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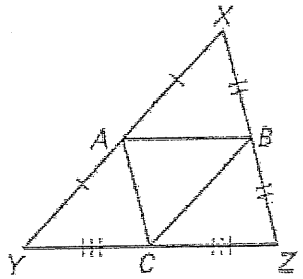
Midsegment Review:

Use the diagram of $\triangle XYZ$ where A, B, and C are the midpoints of the sides.



24) $\overline{AB} \parallel$?

25) $\overline{XY} \parallel$?

26) If $AC = 3$, then $XZ =$?.

27) If $YZ = 7$, then $AB =$?.

28) If $AC = 3m$, then $XZ =$?.

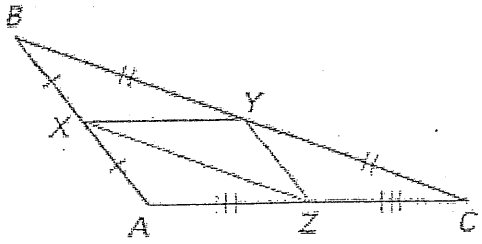
29) If $XY = m + 1$ and $BC = m - 3$, then $XY =$?.

30) If $AC = m - 2$ and $XZ = m + 4$, then $AC =$?.

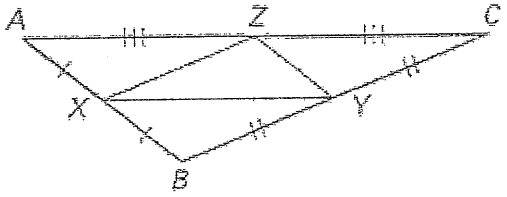
31) If $BC = \frac{3}{4}AC$ and $XZ = 8$, then $BC =$?.

Find the Perimeter of Triangle ABC

32) Given: $AX = 2, XY = 3, BC = 9$



33) Given: $XZ = 5, ZY = 3, XY = 7$



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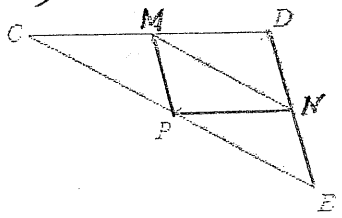
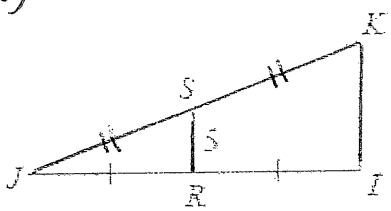


$\overline{CD} \parallel$ ___

Find IK

35)



Find RQ

36)