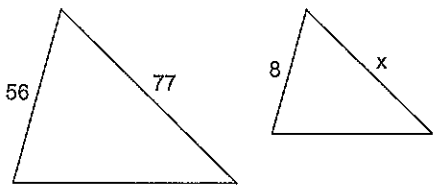
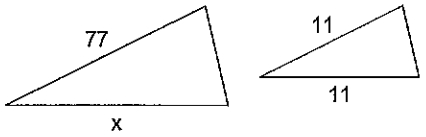
Transformations Using Dilations
Similar Figures

Each pair of figures is similar. Find the missing side.

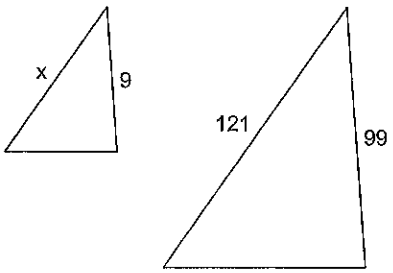
1)



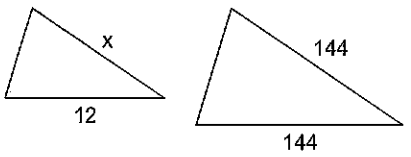
2)



3)



4)



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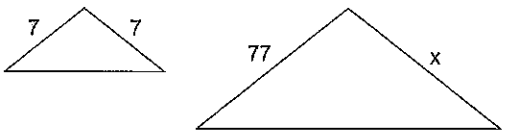

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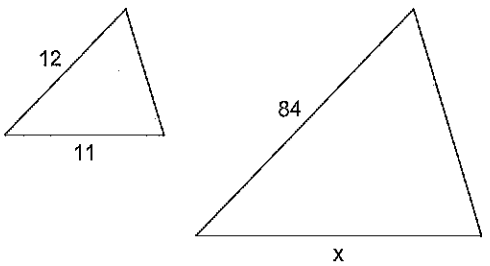

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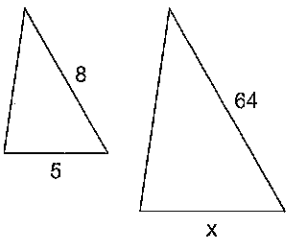

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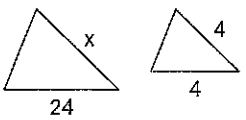

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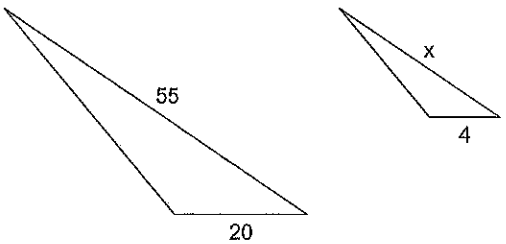

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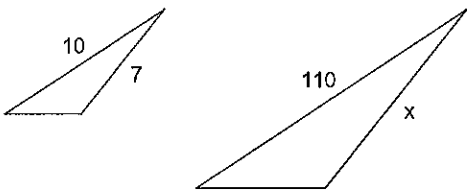

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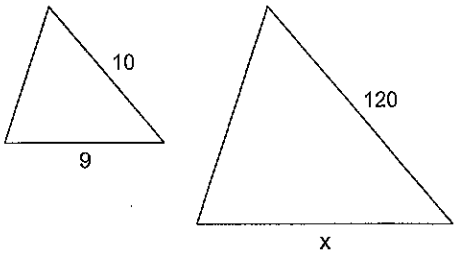

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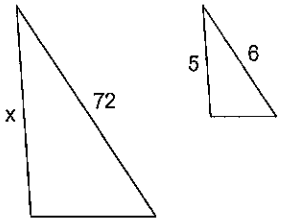
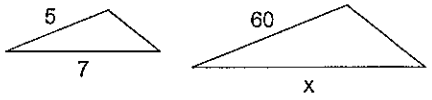


13)



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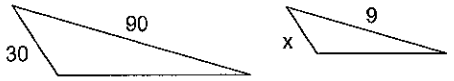

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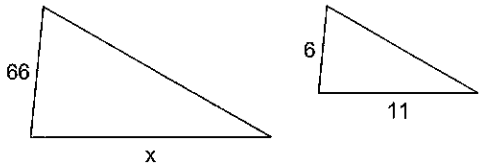
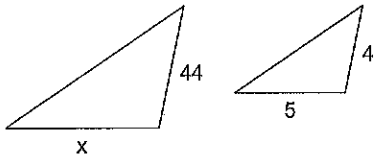
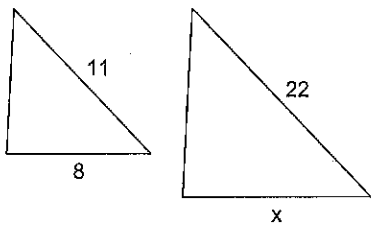


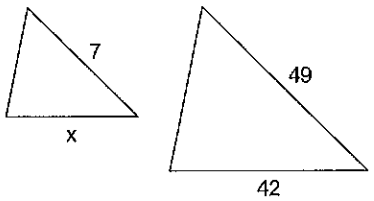
16)



17)



18)



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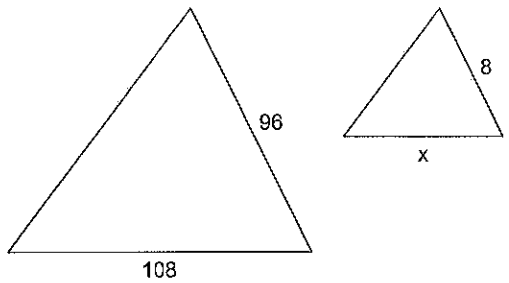
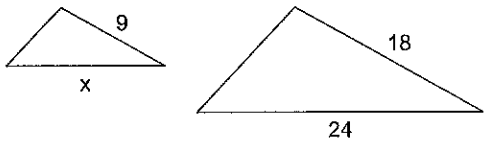


20)



21. Triangle EFG is dilated with a scale factor of $\frac{1}{2}$ to create $\triangle E'F'G'$. The measure of $\angle F'$ is 36°. What is $\angle F'$?

a. 18°
b. 36°
c. 72°
d. 144°

22. Given $\triangle YES \sim \triangle NOT$. Which statement must be true?

a. $\frac{NO}{YE} = \frac{OT}{ES} = \frac{NT}{YS}$

b. $\frac{YE}{ES} = \frac{NO}{NT}$

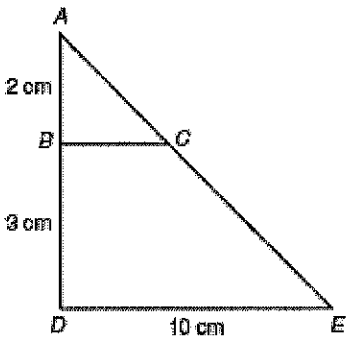
c. $\frac{YE}{NO} = \frac{ES}{NT} = \frac{YS}{OT}$

d. $YE = NO, YS = NT, ES = OT$

23. Triangle ABC is dilated to produce triangle $A'B'C'$ with scale factor $\frac{3}{4}$. Which describes the relationship between the two triangles?

a. $\triangle A'B'C'$ is an enlargement of $\triangle ABC$.
b. $\triangle A'B'C'$ is a reduction of $\triangle ABC$.
c. $\triangle A'B'C' \cong \triangle ABC$
d. $\triangle A'B'C'$ is a mirror image of $\triangle ABC$.

24. Given $\triangle ABC \sim \triangle ADE$ with $AB = 2$ centimeters, $BD = 3$ centimeters, and $DE = 10$ centimeters.



What is the length of $\overline{BC}$?

a. $6\frac{2}{3}$ centimeters

b. 5 centimeters

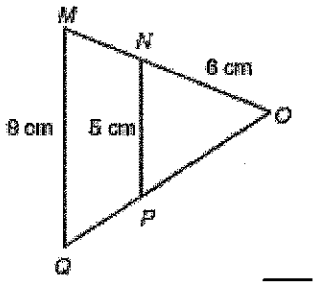
c. 4 centimeters

d. 6 centimeters

25. What is the name of the point from which a dilation is drawn?

a. the vertex
b. the center of dilation
c. the origin of dilation
d. the corner

26. In the figure, $\triangle ONP \sim \triangle OMQ$.



What is the length of $\overline{MN}$?

a. 3.6 centimeters
b. 9.6 centimeters
c. 6 centimeters
d. 7 centimeters

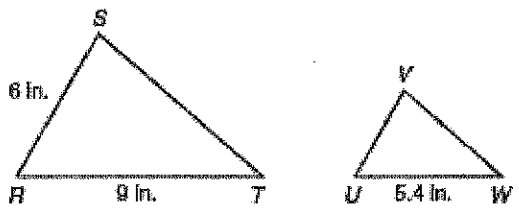
27. Suppose $\angle G \cong \angle S$, $\angle R \cong \angle T$, and $\angle M \cong \angle N$. Which is a correct similarity statement?

a. $\triangle GRS \sim \triangle TMN$
b. $\triangle GRM \sim \triangle NST$
c. $\triangle STN \sim \triangle MRG$
d. $\triangle MGR \sim \triangle NST$

28. Which must be true of a scale factor of a dilation if the image is smaller than the original figure?

a. The scale factor is negative.
b. The scale factor is between –1 and 0.
c. The scale factor is between 0 and 1.
d. The scale factor is positive.

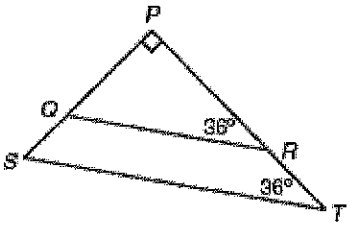
29. Given $\triangle RST \sim \triangle UVW$ with $RT = 9$ inches, $UW = 5.4$ inches, and $RS = 6$ inches.



Which is the length of $\overline{UV}$?

a. 3.6 inches
b. 2.4 inches
c. 8.1 inches
d. 4 inches

30. Find the measure of $\angle Q$ and $\angle S$.



a. 126
b. 36
c. 90
d. 54

ANSWER KEY FOR OPEN RESPONSE QUESTIONS

1) 11	2) 77	3) 11	4) 12
5) 77	6) 77	7) 40	8) 24
9) 11	10) 77	11) 108	12) 60
13) 84	14) 3	15) 121	16) 55
17) 16	18) 6	19) 9	20) 12

ANSWER KEY TO MULTIPLE CHOICE QUESTIONS

21. ANS: B	REF: 9.1	
22. ANS: A	REF: 9.2	
23. ANS: B	REF: 9.1	
24. ANS: C	REF: 9.2	
25. ANS: B	REF: 9.1	
26. ANS: A	REF: 9.2	
27. ANS: D	REF: 9.2	
28. ANS: C	REF: 9.1	
29. ANS: A	REF: 9.2	
30. ANS: D	REF: 9.3	