

Name _____

Date _____

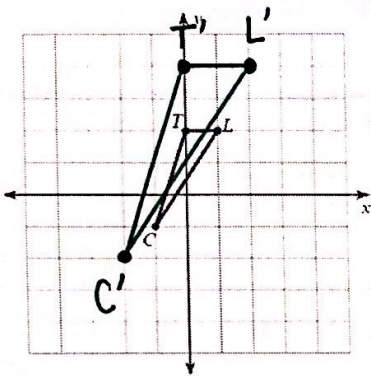
UNIT 3 QUIZ REVIEW

1. Draw triangle T'L'C' using a k=2 to construct a model of ΔTLC.

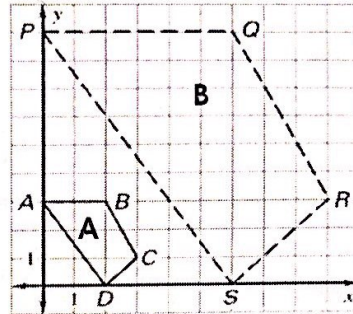
$T(0, 2) \rightarrow A'(0, 4)$

$L(1, 2) \rightarrow B'(2, 4)$

$C(-1, -1) \rightarrow C'(-2, -2)$

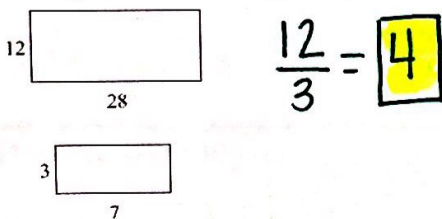


2. Determine whether the dilation from Figure A to Figure B is a reduction or an enlargement. Then find its scale factor and simplify if possible.

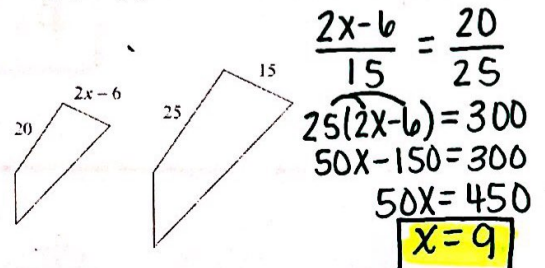


Reduction or enlargement?
enlargement
Scale Factor = $\frac{6}{2} = 3$

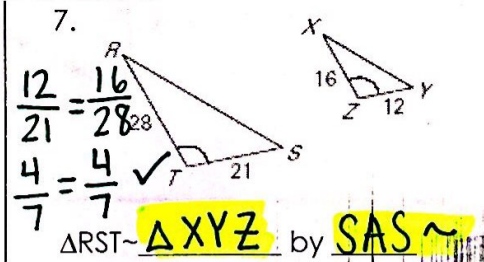
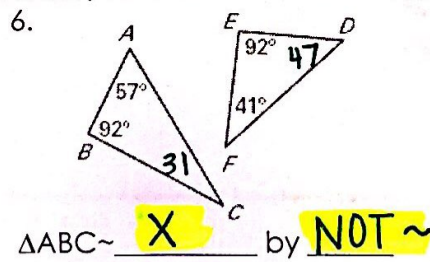
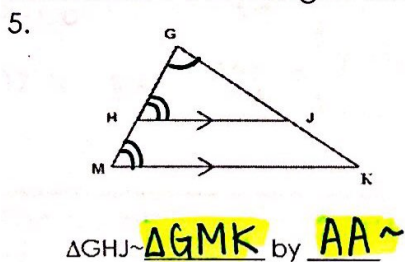
3. Find the scale factor from the smaller figure to the larger figure.



4. The following polygons are similar. Solve for x.



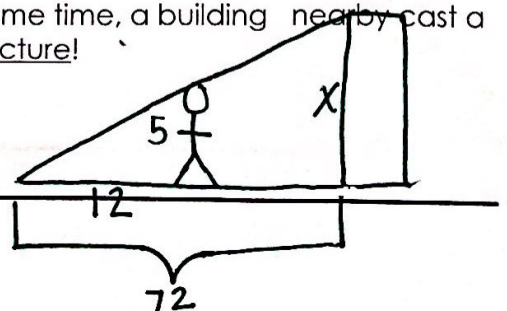
Determine if the triangles are similar. If so, prove and write a similarity statement.



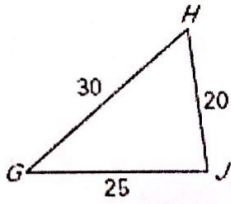
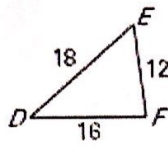
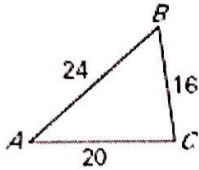
8. A boy who is 5 ft. tall cast a shadow that is 12 ft long. At the same time, a building nearby cast a shadow that is 72 ft long. How tall is the building? Draw a picture!

$\frac{5}{12} = \frac{x}{72}$ $12x = 360$
 $x = 30$

The building IS 30ft tall.



Determine which of the triangles ($\triangle DEF$ or $\triangle GHJ$) is similar to $\triangle ABC$:



DEF: $\frac{24}{18} = \frac{16}{12} = \frac{20}{16}$
 $\frac{4}{3} = \frac{4}{3} \neq \frac{5}{4}$ X

GHJ: $\frac{24}{30} = \frac{16}{20} = \frac{20}{25}$
 $\frac{4}{5} = \frac{4}{5} = \frac{4}{5}$ ✓

9. Complete the Similarity Statement to $\triangle ABC \sim \triangle$ GHJ

10. Find the Scale Factor = $\frac{5}{4}$ or 1.25 $\frac{20}{16} = \frac{5}{4}$

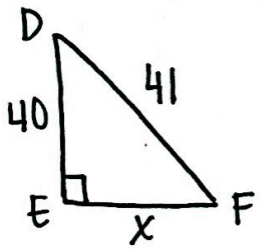
Use co-function identities to find the following:

11. $\sin(25^\circ) = \cos(65^\circ)$
 $90 - 25 = 65$

12. $\cos(80^\circ) = \sin(10^\circ)$
 $90 - 80 = 10$

13. $\sin(\theta) = \cos(90 - \theta)$

14. Find the length of **EF** in $\triangle DEF$ where $\angle E = 90^\circ$ and $\sin F = \frac{40}{41}$. SOH CAH TOA

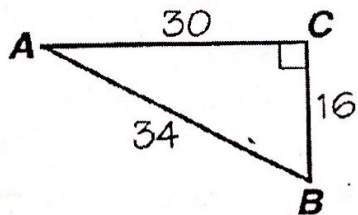


$40^2 + b^2 = 41^2$
 $1600 + b^2 = 1681$
 $\sqrt{b^2} = \sqrt{81}$
 $b = 9$

EF = 9

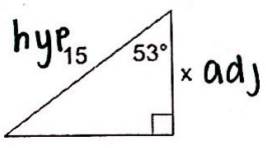
Find the following trig ratios (be sure to simplify):

15. $\sin A = \frac{16}{34} = \frac{8}{17}$
 16. $\cos A = \frac{30}{34} = \frac{15}{17}$
 17. $\tan A = \frac{16}{30} = \frac{8}{15}$



Find the missing sides of the triangle. CAH

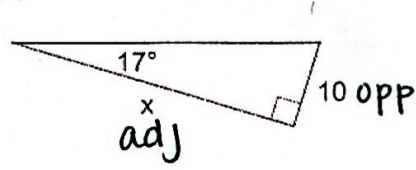
18.



$\cos 53 = \frac{x}{15}$
 $x = 15(\cos 53)$

$x \approx 9.03$

19.



TOA
 $\tan 17 = \frac{10}{x}$
 $x = \frac{10}{\tan 17}$

$x \approx 32.71$