

Quiz for Lessons 7-1 Through 7-3

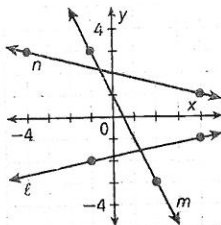
7-1 Ratio and Proportion

Write a ratio expressing the slope of each line.

- l $\frac{1}{5}$
- m $-\frac{2}{1}$
- n $\frac{5}{4}$
- x -axis 0

Solve each proportion.

- $\frac{y}{6} = \frac{12}{9} 8$
- $\frac{16}{24} = \frac{20}{t} 30$
- $\frac{x-2}{4} = \frac{9-4}{x-2}$ or 8
- $\frac{2}{3y} = \frac{y}{24} \pm 4$

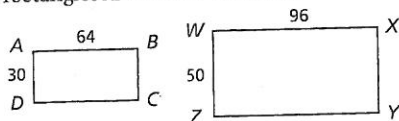


- An architect's model for a building is 1.4 m long and 0.8 m wide. The actual building is 240 m wide. What is the length of the building? **420 m**

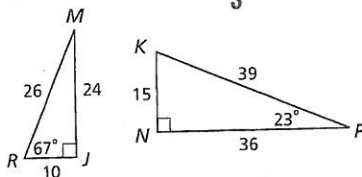
7-2 Ratios in Similar Polygons

Determine whether the two polygons are similar. If so, write the similarity ratio and a similarity statement.

- rectangles $ABCD$ and $WXYZ$ **no**



- $\triangle JMR$ and $\triangle KNP$ **yes; $\frac{2}{3}$; $\triangle JMR \sim \triangle NPK$**

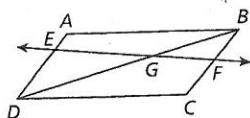


- Leonardo da Vinci's famous portrait the *Mona Lisa* is 30 in. long and 21 in. wide. Janelle has a refrigerator magnet of the painting that is 3.5 cm wide. What is the length of the magnet? **5 cm**

7-3 Triangle Similarity: AA, SSS, and SAS

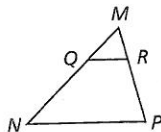
- Given: $\square ABCD$

Prove: $\triangle EDG \sim \triangle FBG$

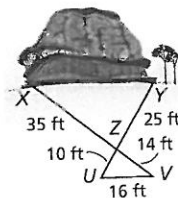


- Given: $MQ = \frac{1}{3}MN$, $MR = \frac{1}{3}MP$

Prove: $\triangle MQR \sim \triangle MNP$



- A geologist wants to measure the length XY of a rock formation. To do so, she locates points U , V , X , Y , and Z as shown. What is XY ? **40 ft**

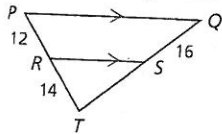


Quiz for Lessons 7-4 Through 7-6

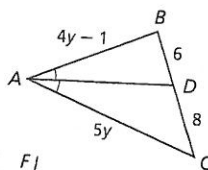
7-4 Applying Properties of Similar Triangles

Find the length of each segment.

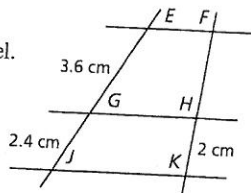
1. \overline{ST}
 $18 \frac{2}{3}$



2. \overline{AB} and \overline{AC}
 15; 20



3. An artist drew a picture of railroad tracks such that the ties \overline{EF} , \overline{GH} , and \overline{JK} are parallel. What is the length of \overline{FH} ? **3 cm**



7-5 Using Proportional Relationships

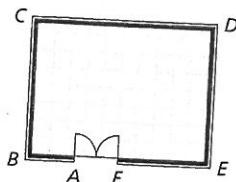
The plan for a restaurant uses the scale of 1.5 in. : 60 ft. Find the actual length of the following walls.

4. \overline{AB} 10 ft

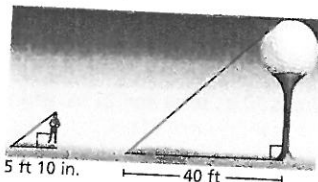
5. \overline{BC} 30 ft

6. \overline{CD} 40 ft

7. \overline{EF} 20 ft



8. A student who is 5 ft 3 in. tall measured her shadow and the shadow cast by a water tower shaped like a golf ball. What is the height of the tower? **36 ft**



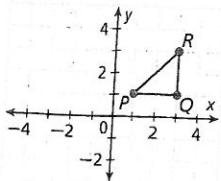
7-6 Dilations and Similarity in the Coordinate Plane

9. Given: $A(-1, 2)$, $B(-3, -2)$, $C(3, 0)$, $D(-2, 0)$, and $E(1, 1)$
 Prove: $\triangle ADE \sim \triangle ABC$

10. Given: $R(0, 0)$, $S(-2, -1)$, $T(0, -3)$, $U(4, 2)$, and $V(0, 6)$
 Prove: $\triangle RST \sim \triangle RUV$

Graph the image of each triangle after a dilation with the given scale factor. Then verify that the image is similar to the given triangle.

11. scale factor 3



12. scale factor 1.5

