7-4 SOL Questions on Similarity

Name: _____ Time › Start: _____ Finish: _____   Total Time = _____

1.

Which additional piece of information would prove that △IJK ~△LMN?

F   NM = 18

G   LM = 18

H   NM = 15

J   LM = 10

2.

If triangle XYZ is similar to triangle XLM, then —

F $XM : XZ = XL : XY$

G $XM : XZ = XY : XL$

H $XL : LM = YZ : XZ$

J $XL : LY = XZ : MZ$

3.

A man who is 6 feet tall casts a shadow that is 4 feet long. At the same time, a nearby flagpole casts a shadow that is 18 feet long. How tall is the flagpole?

F   10 ft

G   12 ft

H   22 ft

J   27 ft

4.

The ratio of the perimeter of △U to the perimeter of △V is 1:2.

If the triangles are similar, what is the value of $x + y$?

A   3

B   6

C   12

D   18

5.

Given: △ABC ~ △LMN

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

F   11

G   12

H   22

J   24

6.

Which drawing contains a pair of similar triangles?

7.

Triangles ABC and EFG are similar with measurements in centimeters as shown.

What is the perimeter of triangle EFG?

F   21 cm

G   24 cm

H   36 cm

J   42 cm

8.

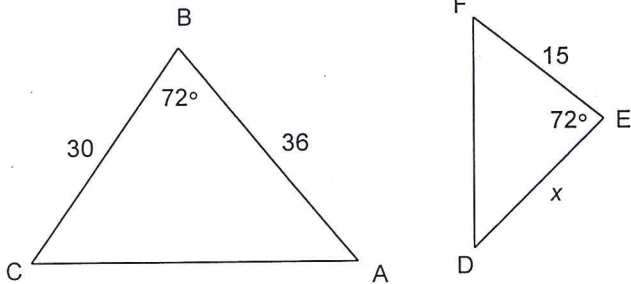Joseph is standing 12 feet from a mirror lying on the ground, and his eyes are 5 feet above the ground.

The line-of-sight reflection on the mirror makes ∠1 congruent to ∠2. If the building is 264 feet from the mirror, which is closest to the height of the building?

F   100 ft

G   110 ft

H   130 ft

J   145 ft
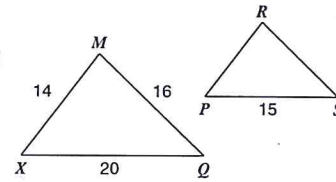
9.

For what value of x is $\triangle ABC \sim \triangle DEF$?

A. 18
B. 21
C. 25
D. 72

10.

Which proportion can be used to find the value of $\overline{PR}$ if $\triangle XMQ$ is similar to $\triangle PRS$?
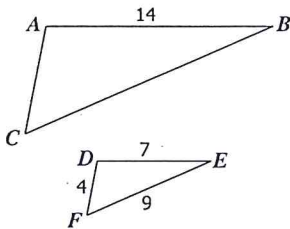
F $\quad \dfrac{20}{15} = \dfrac{14}{PR}$

G $\quad \dfrac{10}{5} = \dfrac{7}{PR}$

H $\quad \dfrac{14}{20} = \dfrac{15}{PR}$
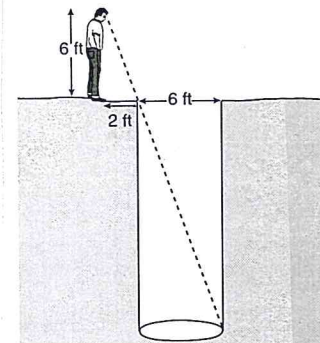
J $\quad \dfrac{15}{20} = \dfrac{14}{PR}$

11.

In addition to the information given in the drawing, which statement would be sufficient to prove that $\triangle ABC \sim \triangle DEF$?

A $\quad \dfrac{BC}{AC} = \dfrac{1}{2}$

B $\quad \dfrac{BC}{AC} = \dfrac{9}{4}$

C $\quad AC = 18$ and $BC = 8$

D $\quad AC = 8$ and $BC = 18$

12.

When standing upright, Gary knows his eyes are 6 feet above ground level. To determine the depth of a well, he stands in the position shown.

Using the given measures, how deep is the well?

A   12 ft
B   14 ft
C   16 ft
D   18 ft