

STANDARD VII: The student will be able to solve problems involving a variety of algebraic and geometric concepts.

OBJECTIVE

3. Apply properties of similar polygons.

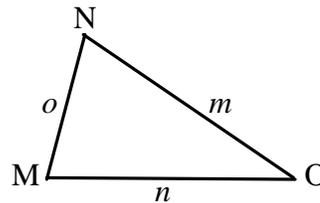
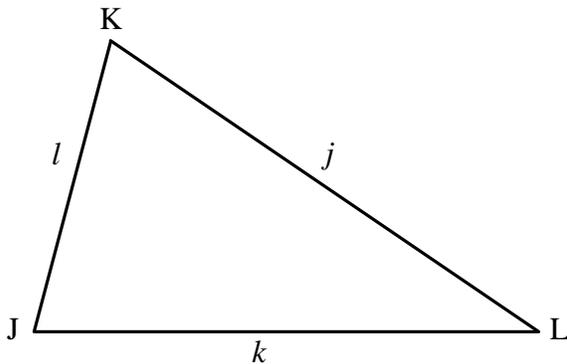
ELIGIBLE CONTENT

- Diagrams may be included.
- Drawings will be to scale.
- The word *similar* or the symbol “~” may be used.
- Use of the scale factor will be required.

SAMPLE ITEMS

1

If $\triangle JKL \sim \triangle MNO$, which of these proportions is true?



A $\frac{m}{n} = \frac{j}{l}$

B $\frac{m}{n} = \frac{o}{l}$

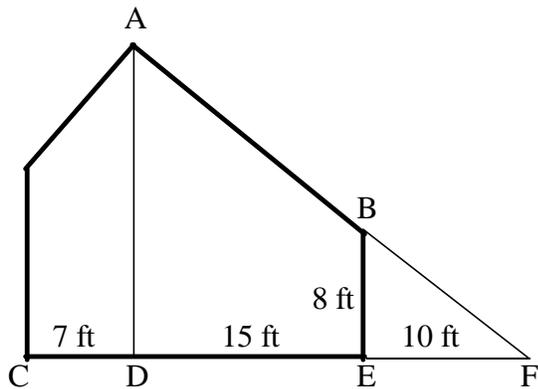
C $\frac{m}{n} = \frac{l}{j}$

D $\frac{m}{n} = \frac{j}{k}$

2 Which of these dimensions form a rectangle similar to a rectangle with a width of 2 inches and a length of 5 inches?

- A 2 inches by 10 inches
- B 4 inches by 25 inches
- C 6 inches by 9 inches
- D 6 inches by 15 inches

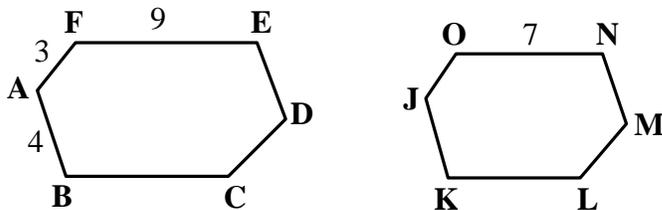
3 In the house plan shown below, figure FEB is similar to figure FDA.



What is the length of segment AD?

- A 12 feet
- B 20 feet
- C 30 feet
- D 35 feet

4 If $ABCDEF \sim JKLMNO$, what is the length of segment JK?



- A 2
- B $2\frac{1}{3}$
- C $3\frac{1}{9}$
- D 6

5

The bases for a major league baseball field form a square that is 90 feet long on each side. The bases for a little league field form a square that is 60 feet long on each side. What is the ratio of the area of the major league baseball field to the area of the little league field?

A $\frac{3}{2}$

B $\frac{2}{3}$

C $\frac{9}{4}$

D $\frac{4}{9}$

6

Which of these dimensions would form a rectangle that is similar to a rectangle with sides measuring 49×14 ?

A 9×4

B 8×3

C 7×2

D 6×2