

**SHOW WORK!** Give exact answers (whole numbers, fractions, mixed numbers, or decimals) in simplest form. Do not use rounded off decimals as answers.

1. Complete:

If  $\frac{k}{m} = \frac{2}{7}$ , then  $\frac{m}{7} = \underline{\hspace{1cm}}$  and  $\frac{k+m}{m} = \underline{\hspace{1cm}}$ .

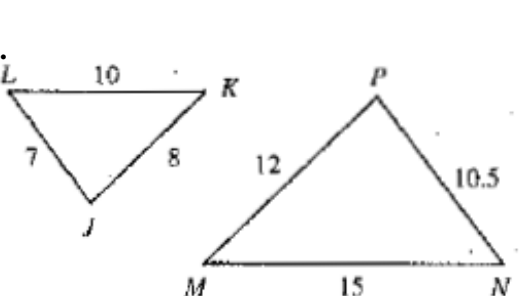
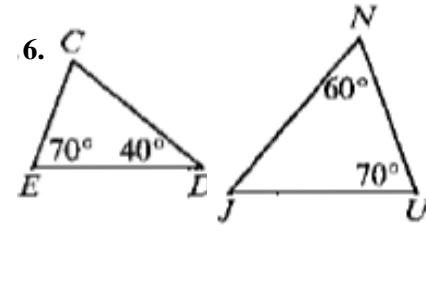
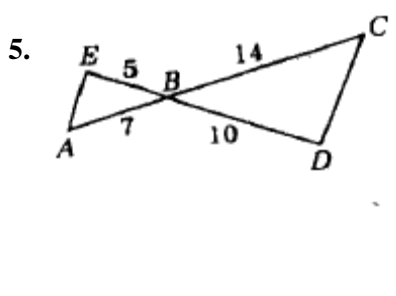
2. Solve for  $x$ .

$$\frac{x-2}{x-5} = \frac{2x+1}{x-1}$$

3. The ratio of the measures of the exterior angles of a pentagon is 2 : 3 : 4 : 4 : 5. Find the largest exterior angle measure.

4. Find  $x$  and  $y$ .

Can the triangles be proved similar? If so: a) name the similar triangles and b) give the method you would use (AA~, SAS~, or SSS~). If triangles not similar, write "not similar".

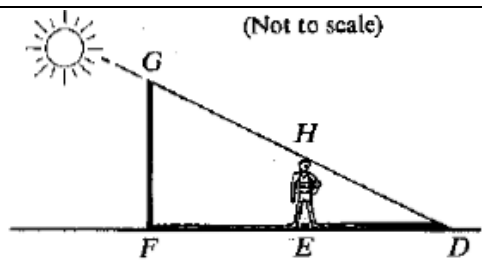


5a) \_\_\_\_\_  
b) \_\_\_\_\_

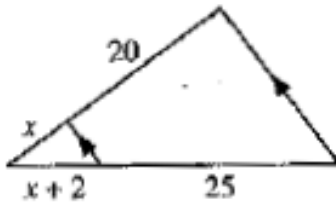
6a) \_\_\_\_\_  
b) \_\_\_\_\_

7a) \_\_\_\_\_  
b) \_\_\_\_\_

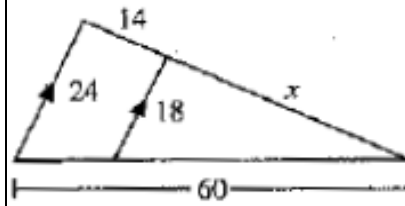
8. To estimate the height of a pole, a basketball player exactly 2 meters tall stood so that his shadow and the pole's shadow overlapped. If  $DE = 1.6$  meters and  $EF = 2.8$  meters, find the height of the pole.



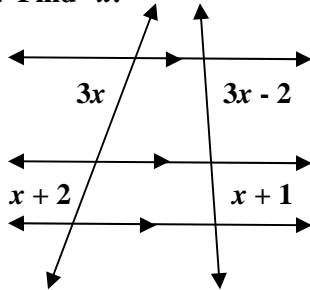
9. Find  $x$ .



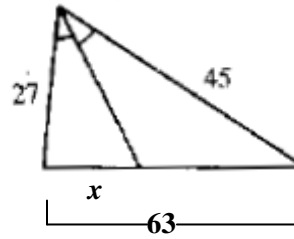
10. Find  $x$ .



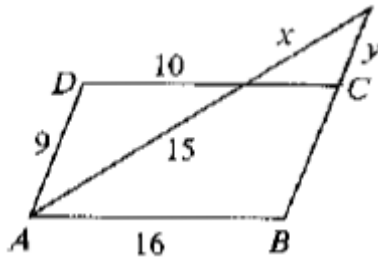
11. Find  $x$ .



12. Find  $x$ .



13. Find  $x$  and  $y$ .  $ABCD$  is a parallelogram.



14. Given:  $\overline{FE} \parallel \overline{SR}$

Prove:  $XF \cdot XR = XS \cdot XE$

