

SM2 HW #7-8 (Unit 7 Test Preview)

Period \_\_\_\_\_

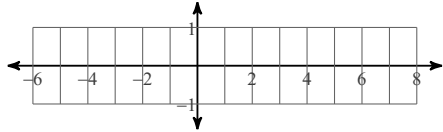
Solve each equation.

1)  $b^2 = -11b - 28$

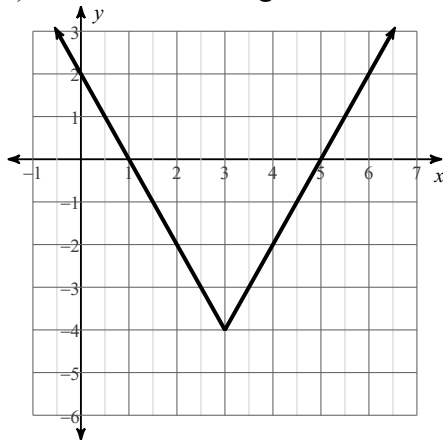
2)  $x^2 = 7x$

- 3) a) Graph the solution to the inequality.  
 b) Write the solution in interval notation.

$x^2 - 6x - 40 < 0$



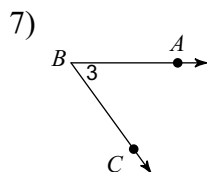
- 4) a) Where is the function increasing?  
 b) Where is the function decreasing?  
 c) Where is the function positive?  
 d) Where is the function negative?  
 e) What is the minimum function value?  
 f) Where are the extrema and what type are they?  
 g) What is the end behavior? (use "infinity notation")  
 h) What is the range?  
 i) What is the average rate of change between  $x = 1$  and  $x = 3$ ?



5)  $a^{-3}b^{\frac{5}{3}} \cdot 3ab^{\frac{1}{4}}$

6)  $\left(x^{\frac{1}{2}}y^{-\frac{7}{4}}\right)^{-4}$

Name each angle in four ways.



Find the midpoint of the line segment with the given endpoints.

8)  $(-1, -7), (7, 2)$

**Find the other endpoint of the line segment with the given endpoint and midpoint.**

9) Endpoint:  $(-8, 6)$ , midpoint:  $(-7, 6)$

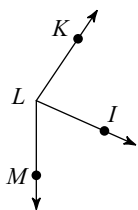
10) Endpoint:  $(-1, -4)$ , midpoint:  $(-4, 2)$

**Find the distance between each pair of points.**

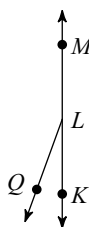
11)  $(1, -1)$ ,  $(6, 5)$

12)  $(-2, 5)$ ,  $(-1, -2)$

13) Find  $m\angle KLI$  if  $m\angle KLM = 146^\circ$   
and  $m\angle ILM = 66^\circ$ .

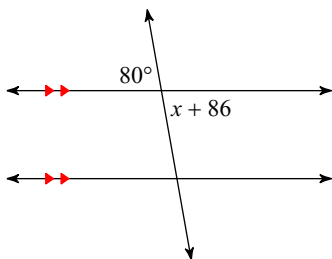


14)  $m\angle QLM = 21x + 13$ ,  $m\angle KLQ = x + 13$ ,  
and  $m\angle KLM = 180^\circ$ . Find  $x$ .

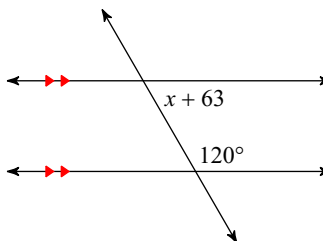


**Solve for  $x$ .**

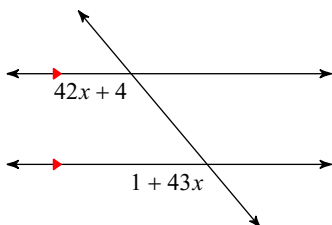
15)



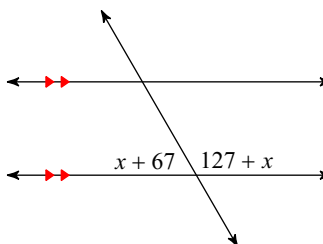
16)



17)

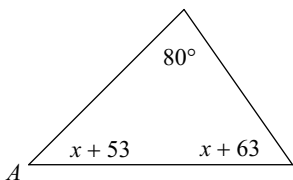


18)



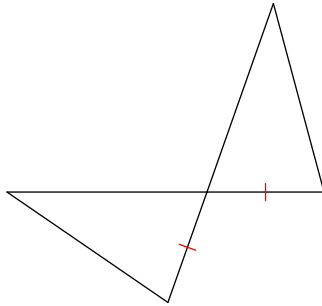
**Find the measure of angle A.**

19)

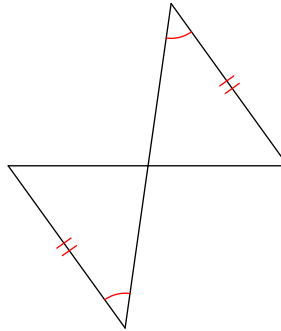


Determine if the two triangles are congruent. If they are, state how you know.

20)

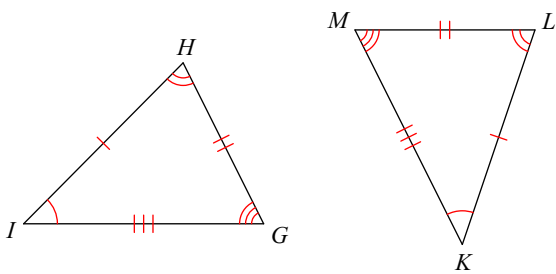


21)



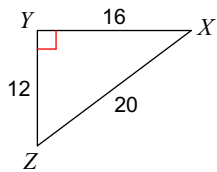
Write a statement that indicates that the triangles in each pair are congruent.

22)

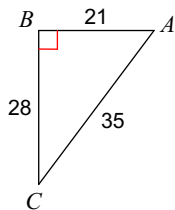


Find the value of each trigonometric ratio.

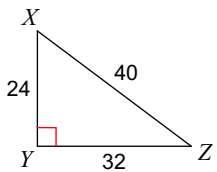
23)  $\cos X$



24)  $\sin A$

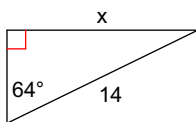


25)  $\tan Z$

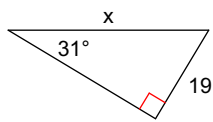


Find the missing side. Round to the nearest tenth.

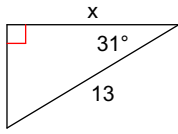
26)



27)

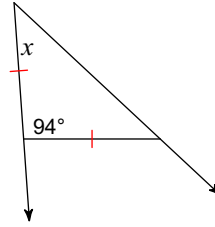


28)



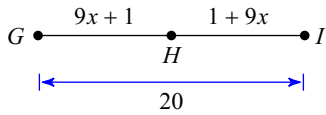
Find the value of  $x$ .

29)



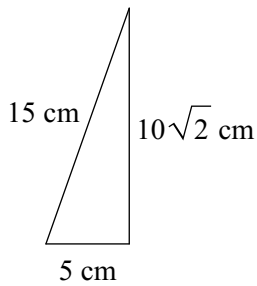
Find the length indicated.

30) Find  $HI$

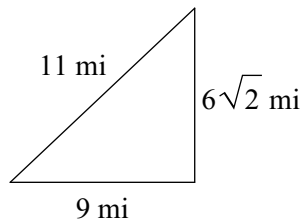


State if each triangle is a right triangle.

31)

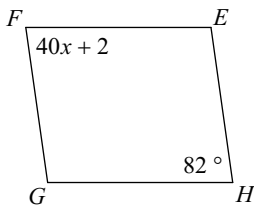


32)



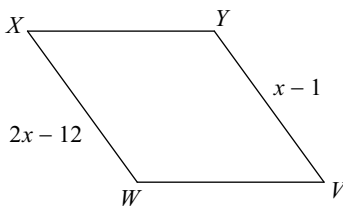
Solve for  $x$ . Each figure is a parallelogram.

33)

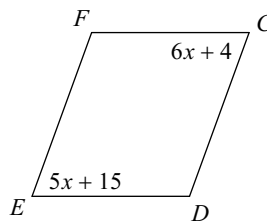


Find the measurement indicated in each parallelogram.

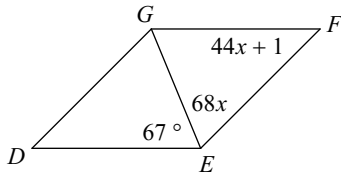
34) Find  $WX$



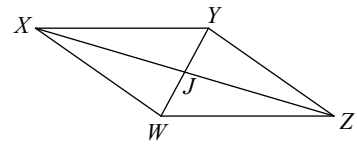
35) Find  $m\angle E$



36) Find  $m\angle FED$

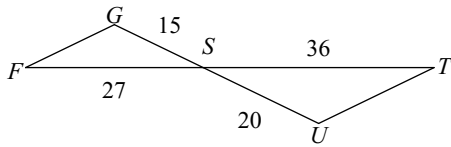


37)  $XJ = 1 + x$   
 $XZ = x + 8$   
 Find  $XZ$



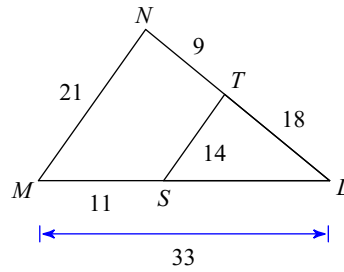
State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

38)



$\triangle STU \sim$  \_\_\_\_\_

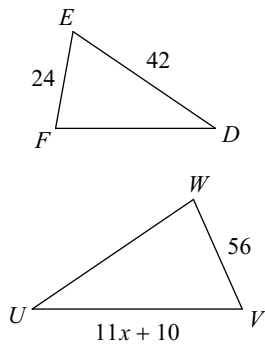
39)



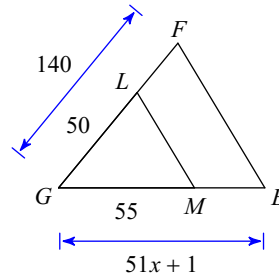
$\triangle LMN \sim$  \_\_\_\_\_

Solve for  $x$ . The triangles in each pair are similar.

40)  $\triangle WVU \sim \triangle FED$

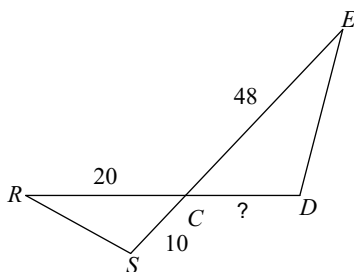


41)

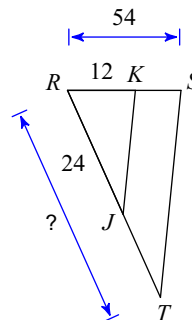


Find the missing length. The triangles in each pair are similar.

42)  $\triangle CDE \sim \triangle CSR$

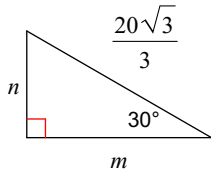


43)

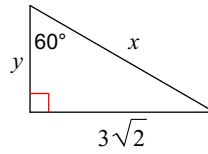


Find the missing side lengths. Leave your answers as radicals in simplest form.

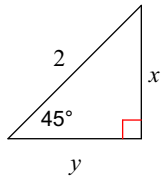
44)



45)



46)



47)

