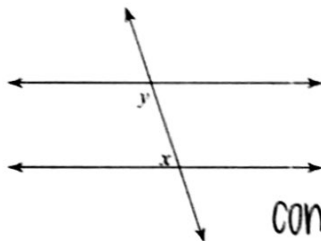


Final Exam REVIEW B

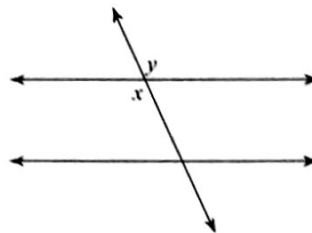
Identify each pair of angles as corresponding, alternate interior, alternate exterior, consecutive interior, or vertical.

1)



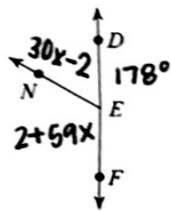
consecutive interior

2)



vertical angles

3) Find  $x$  if  $m\angle FED = 178^\circ$ ,  
 $m\angle NED = 30x - 2$ , and  $m\angle FEN = 2 + 59x$ .

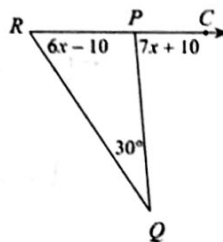


$$30x - 2 + 2 + 59x = 178$$

$$\frac{89x}{89} = \frac{178}{89}$$

$$x = 2$$

4)

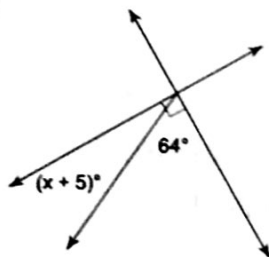


$$30 + 6x - 10 = 7x + 10$$

$$6x + 20 = 7x + 10$$

$$x = 10$$

5)

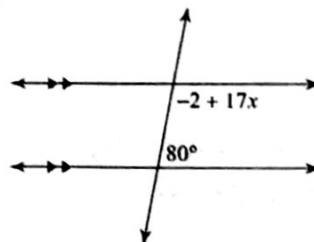


$$x + 5 + 64 = 90$$

$$x + 69 = 90$$

$$x = 21$$

6)



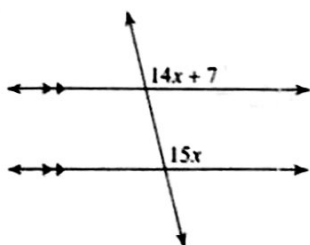
$$-2 + 17x + 80 = 180$$

$$17x + 78 = 180$$

$$17x = 102$$

$$x = 6$$

7)

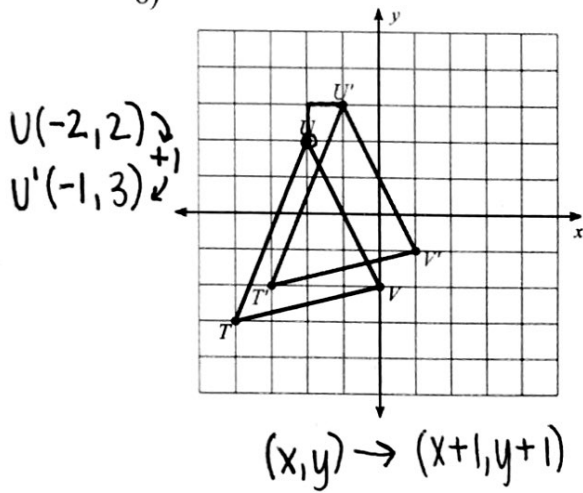


$$14x + 7 = 15x$$

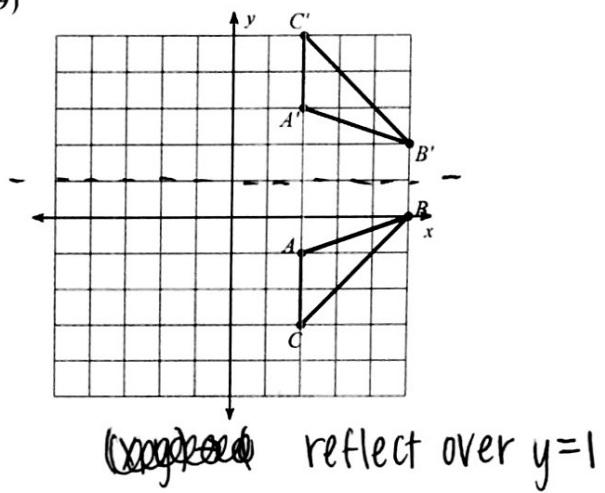
$$x = 7$$

Write a rule to describe each transformation.

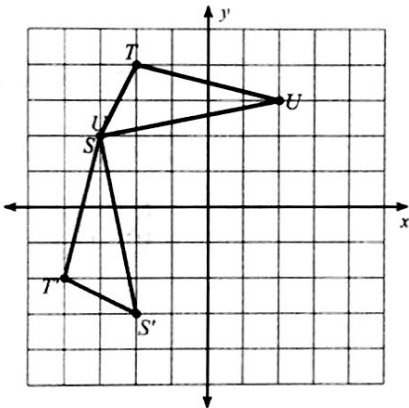
8)



9)



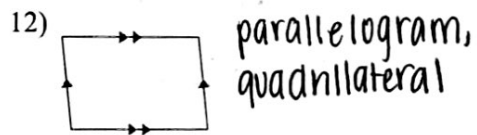
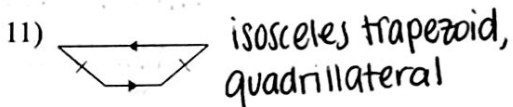
10)



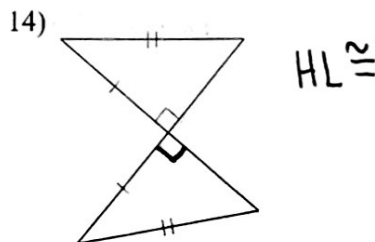
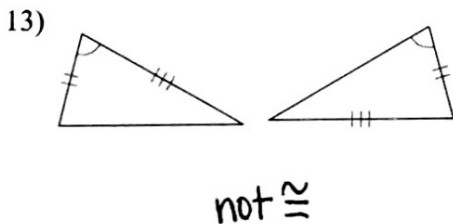
$T(-2, 4) \rightarrow T'(-4, -2)$

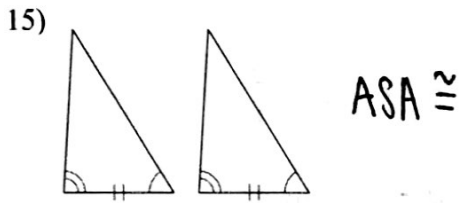
rotation  $90^\circ$  CCW  
 or  $270^\circ$  CW

State all possible names for each figure.

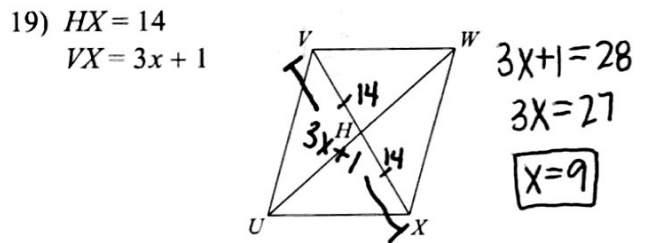
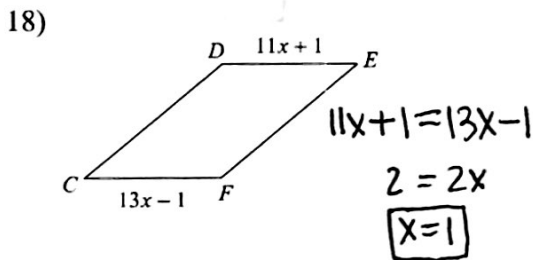
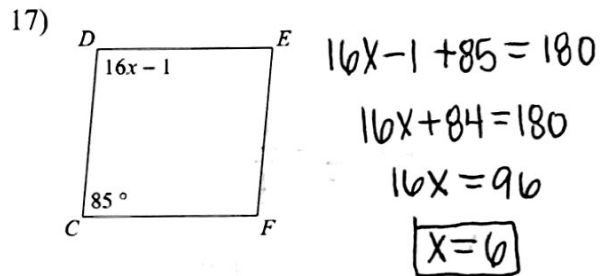
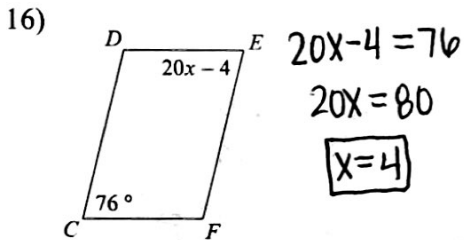


State if the two triangles are congruent. If they are, state how you know.

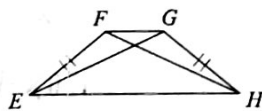




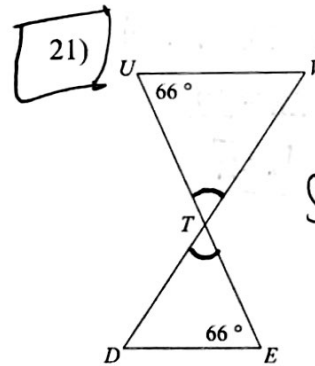
Solve for  $x$ . Each figure is a parallelogram.



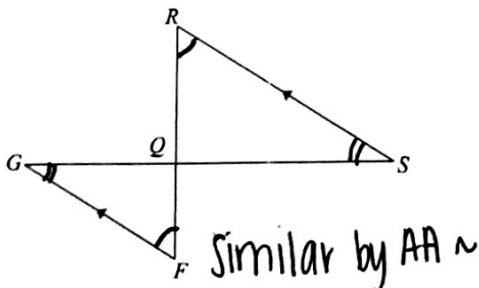
20)  $FH = 15$   
 $EG = -x + 27$



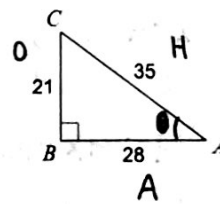
$-x + 27 = 15$   
 $-x = -12$   
 $x = 12$



22)  $\triangle QRS \sim \triangle QFG$

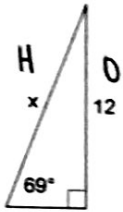


23)  $\tan A$



$\tan A = \frac{21}{28} = \frac{3}{4}$

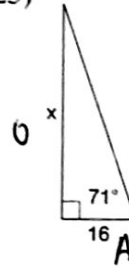
24)



$$\sin 69 = \frac{12}{x}$$

$$x = \frac{12}{\sin 69} = \boxed{12.9}$$

25)

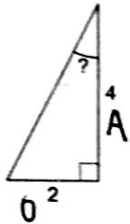


$$\tan 71 = \frac{x}{16}$$

$$x = 16 \tan 71$$

$$x = \boxed{46.5}$$

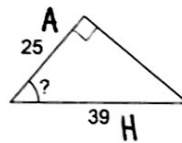
26)



$$\tan \theta = \frac{4}{2}$$

$$\theta = \tan^{-1}\left(\frac{2}{4}\right) = \boxed{27^\circ}$$

27)



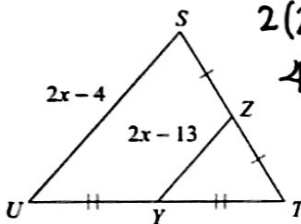
$$\cos \theta = \frac{25}{39}$$

$$\theta = \cos^{-1}\left(\frac{25}{39}\right)$$

$$= \boxed{50^\circ}$$

Solve for x.

28)

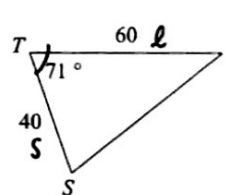


$$2(2x-13) = 2x-4$$

$$4x-26 = 2x-4$$

$$2x = 22$$

$$x = \boxed{11}$$

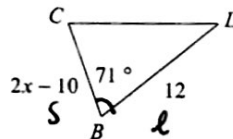
29)  $\triangle TSR \sim \triangle BCD$ 

$$\frac{40}{2x-10} = \frac{60}{12}$$

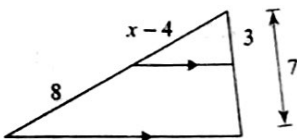
$$120x - 600 = 480$$

$$120x = 1080$$

$$x = \boxed{9}$$



30)



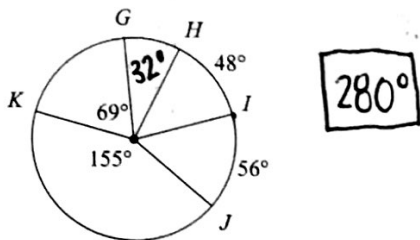
$$\frac{x-4}{8} = \frac{3}{4}$$

$$24 = 4x - 16$$

$$x = \boxed{10}$$

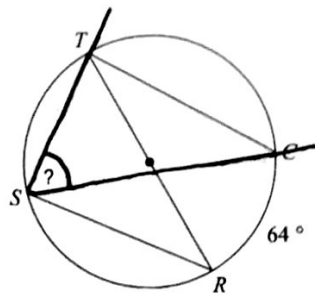
Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

31)  $m\widehat{IJG}$



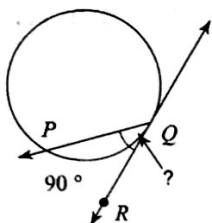
$$\boxed{280^\circ}$$

32)



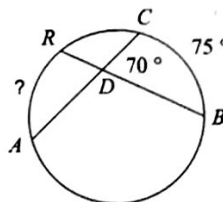
$$180 - 64 = \frac{116^\circ}{2} = \boxed{58^\circ}$$

33)



$$\boxed{45^\circ}$$

34)

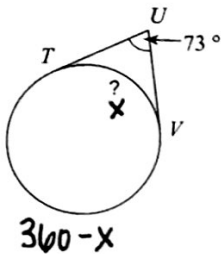


$$\frac{75 + x}{2} = 70$$

$$75 + x = 140$$

$$\boxed{x = 65^\circ}$$

35)



$$\frac{360 - x - x}{2} = 73$$

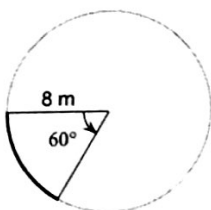
$$360 - 2x = 146$$

$$-2x = -214$$

$$\boxed{x = 107^\circ}$$

Find the length of the arc.

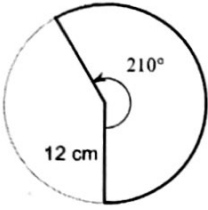
36)



$$\frac{2\pi(8)(60)}{360} = \boxed{\frac{8\pi}{3} \text{ m} \approx 8.38 \text{ m}}$$

Find the area of the sector.

37)



$$\frac{\pi (12)^2 (210)}{360}$$
$$= \boxed{84\pi \approx 263.9 \text{ cm}^2}$$

38) area =  $9\pi \text{ ft}^2$ . Find the circumference

$$A = 9\pi$$
$$\cancel{\pi}r^2 = 9\cancel{\pi}$$
$$\sqrt{r^2} = \sqrt{9}$$
$$r = 3$$

$$C = 2\pi r$$
$$= 2\pi(3)$$
$$= \boxed{6\pi \text{ ft}}$$

39) circumference =  $20\pi \text{ m}$   
Find the area.

$$C = 20\pi$$
$$2\cancel{\pi}r = 20\cancel{\pi}$$
$$2r = 20$$
$$r = 10$$

$$A = \pi (10)^2$$
$$= \boxed{100\pi}$$

40) area =  $49\pi \text{ km}^2$ . Find the circumference

$$A = 49\pi$$
$$\cancel{\pi}r^2 = 49\cancel{\pi}$$
$$\sqrt{r^2} = \sqrt{49}$$
$$r = 7$$

$$C = 2\pi(7)$$
$$= \boxed{14\pi \text{ km}}$$