Geometry Support

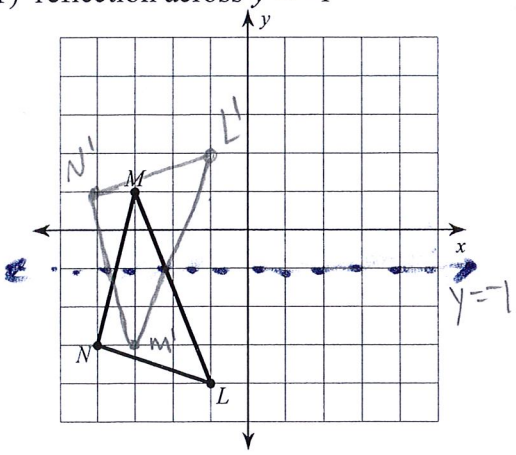
Name_____

Midterm Review 3

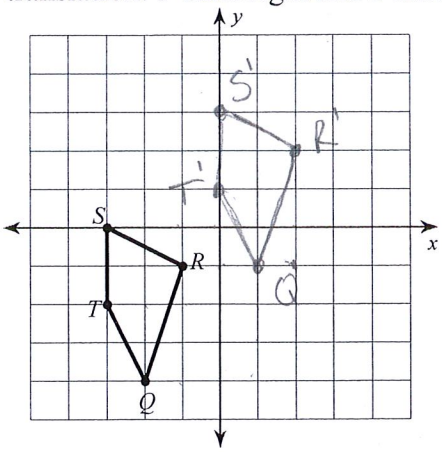
Date_____

Find the coordinates of the vertices of each figure after the given transformation.

1) reflection across $y = -1$

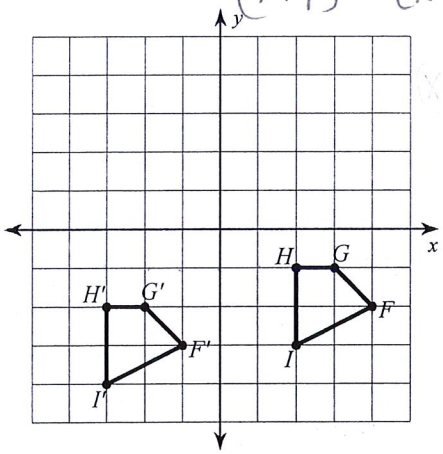


2) translation: 3 units right and 3 units up

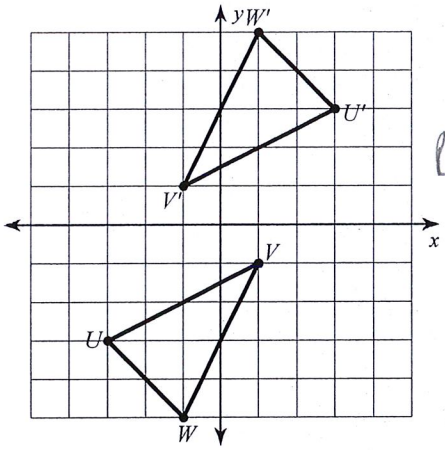


Write a rule to describe each transformation.

3) $(x, y) \rightarrow (x-5, y-1)$



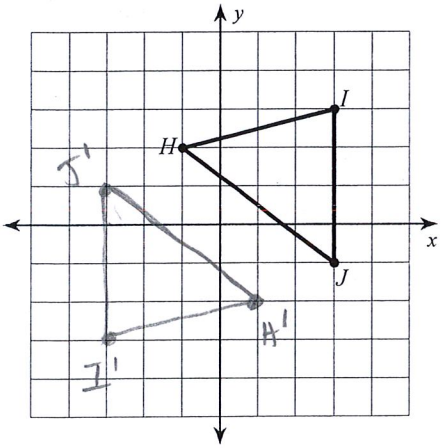
4)



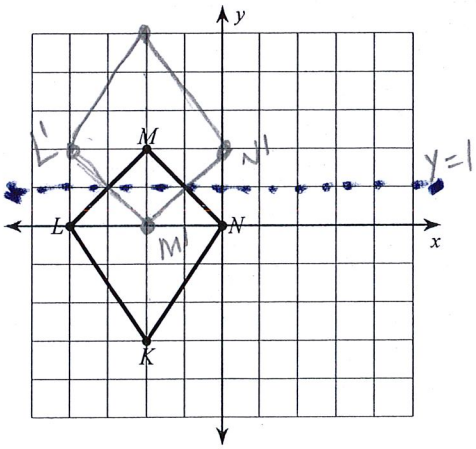
Rotate 180°

Graph the image of the figure using the transformation given.

5) rotation 180° about the origin

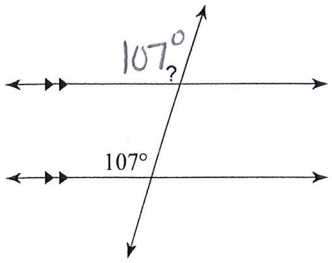


6) reflection across $y = 1$

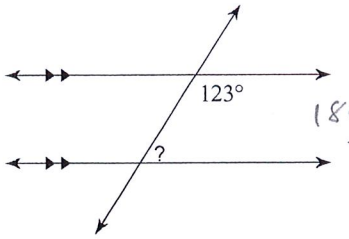


Find the measure of each angle indicated.

7)

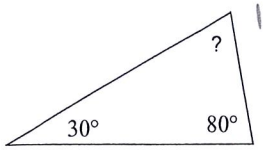


8)



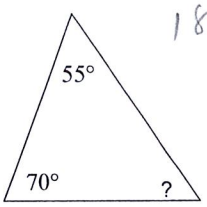
180-123
= 57°

9)



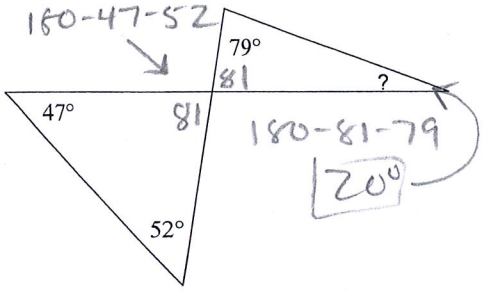
180-80-30
= 70°

10)



180-55-70
= 55°

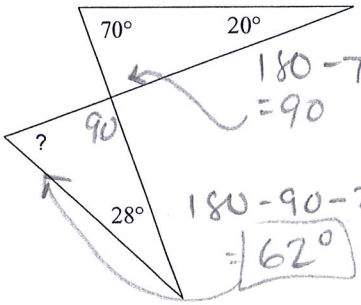
11)



180-47-52

180-81-79
$\boxed{20°}$

12)

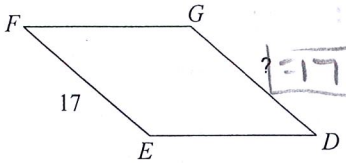


180-70-20
= 90

180-90-28
= $\boxed{62°}$

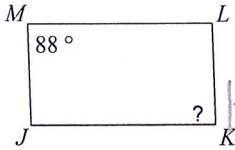
Find the measurement indicated in each parallelogram.

13)



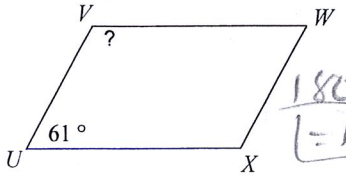
? = $\boxed{17}$

14)



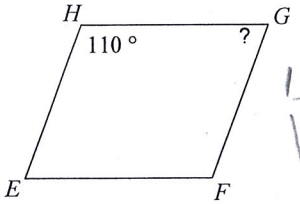
$\boxed{= 88°}$

15)



180-61
$\boxed{= 119°}$

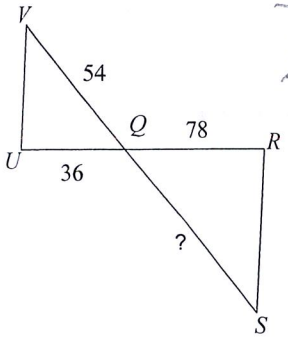
16)



180-110
$\boxed{= 70°}$

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

17) $\triangle QRS \sim \triangle QUV$

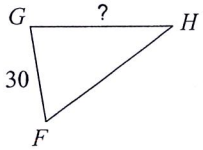


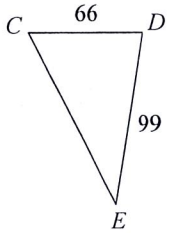
$\frac{x}{54} = \frac{78}{36}$

36x = 4212

$\boxed{x = 117}$

18) $\triangle CDE \sim \triangle FGH$



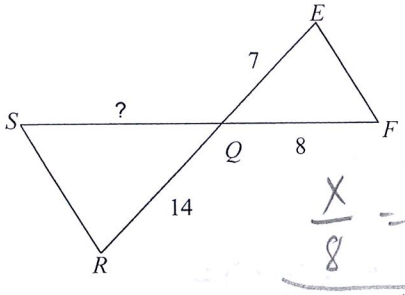


$\frac{x}{99} = \frac{30}{66}$

66x = 2970

$\boxed{x = 45}$

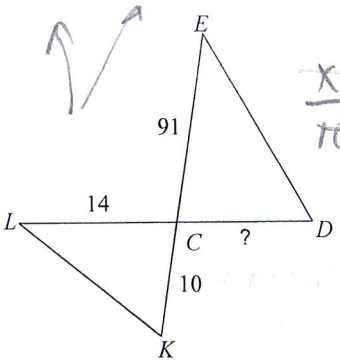
19) $\triangle QRS \sim \triangle QEF$



$\frac{x}{8} = \frac{14}{7}$

$\boxed{x=16}$

20) $\triangle CDE \sim \triangle CKL$



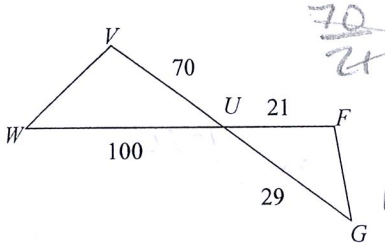
$\frac{x}{10} = \frac{91}{14}$

$14x = 910$

$\boxed{x=65}$

State if the triangles in each pair are similar. If so, complete the similarity statement.

21)



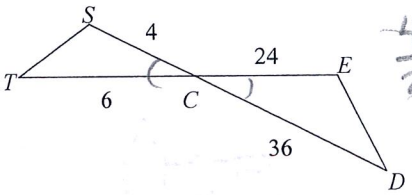
$\frac{70}{21} \overset{?}{=} \frac{100}{29}$ 2100 2030

No

Not ~

$\triangle UVW \sim$ _____

22)

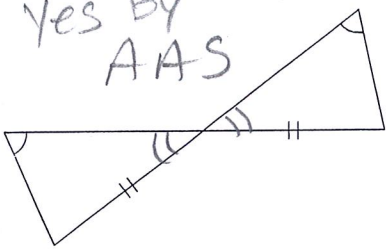


$\frac{4}{24} \overset{?}{=} \frac{6}{36}$ 144 144 ✓

$\triangle CDE \sim$ DCTS by SAS

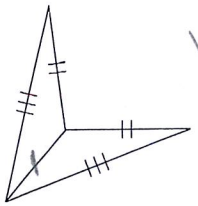
State if the two triangles are congruent. If they are, state how you know.

23)



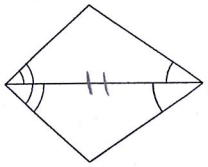
Yes by AAS

24)



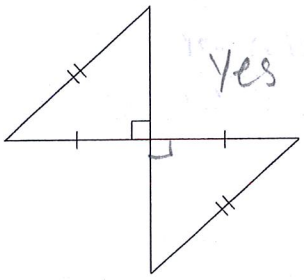
Yes, by SSS

25)



Yes by ASA

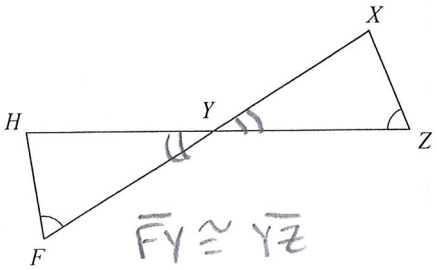
26)



Yes by HL

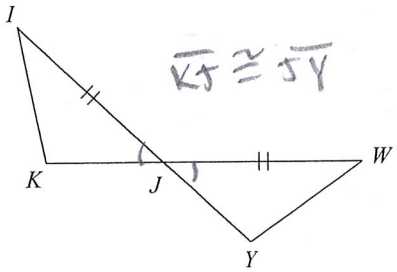
State what additional information is required in order to know that the triangles are congruent for the reason given.

27) ASA



$\overline{FY} \cong \overline{YZ}$

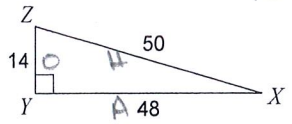
28) SAS



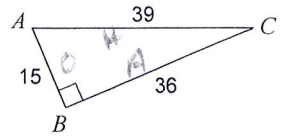
$\overline{KJ} \cong \overline{JY}$

Find the value of each trigonometric ratio. State as a fraction and a decimal.

29) $\cos X$ $= 48/50 = \boxed{24/25}$

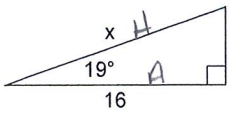


30) $\sin C$ $= 15/39 = \boxed{5/13}$



Find the missing side. Round to the nearest tenth.

31)

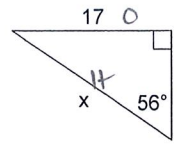


$\cos 19 = \frac{16}{x}$

$x = \frac{16}{\cos(19)}$

$\boxed{x \approx 16.9}$

32)



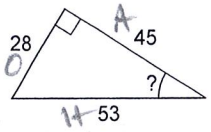
$\sin(56) = \frac{17}{x}$

$x = 17/\sin(56)$

$\boxed{x \approx 20.5}$

Find the measure of the indicated angle to the nearest degree.

33)

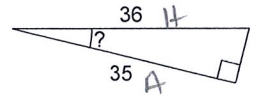


$\tan(x) = \frac{28}{45}$

$\tan^{-1}(28/45) = x$

$\boxed{31.9° \approx x}$

34)



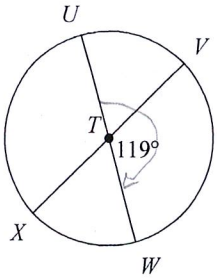
$\cos(x) = 35/36$

$\cos^{-1}(35/36) = x$

$\boxed{13.5° \approx x}$

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

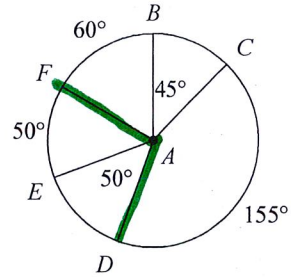
35) $m\angle UTV$



$180 - 119$

$\boxed{= 61°}$

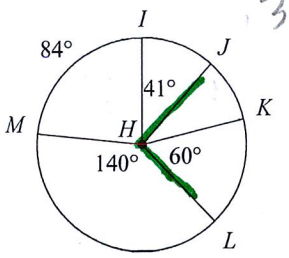
36) $m\angle DAF$



$50 + 50$

$\boxed{= 100°}$

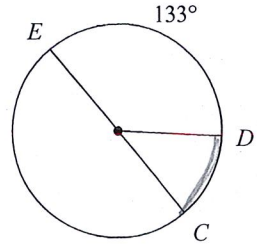
37) $m\angle JHL$



$360 - 41 - 84 - 140$

$\boxed{= 95°}$

38) $m\widehat{DC}$



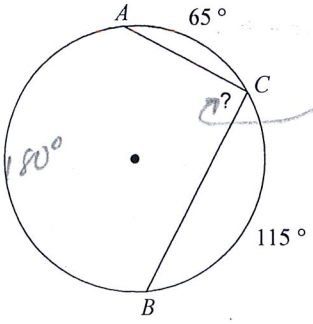
Semic

$180 - 133$

$\boxed{= 47°}$

Find the measure of the arc or angle indicated.

39)

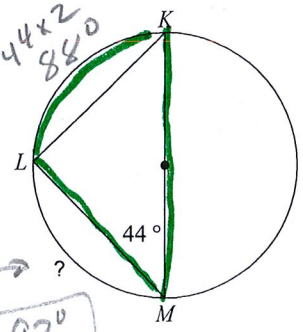


360
-65
-115
180

$180/2$

$\boxed{= 90°}$

40)



44×2
$88°$

180
-88
92

$\boxed{= 92°}$