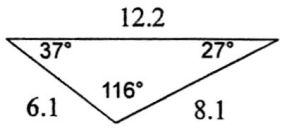
CCSS Geometry Name Key ID: 1

Finals Review: G5 and G6 C Level Test Review

Date_____ Period____

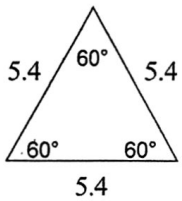
Classify each triangle by its angles (acute, obtuse, right) and sides (scalene, isosceles, equilateral).

1)



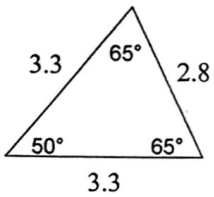
obtuse scalene

2)



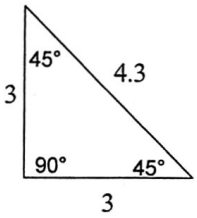
Acute Equilateral

3)



Acute Isosceles

4)



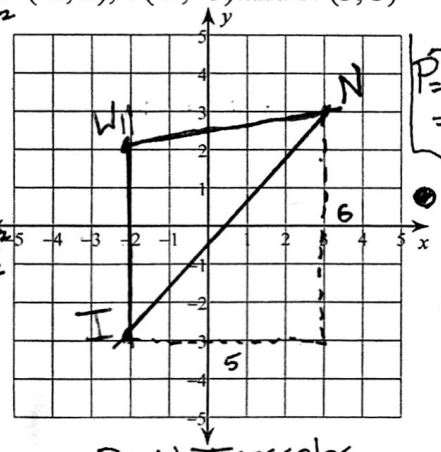
Right Isosceles

Plot and connect each point. Then state what kind of triangle it is and justify your conclusion. Find the perimeter using the distance formula or pythagorean theorem.

Pythagorean Theorem: $a^2 + b^2 = c^2$	Distance: $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

5) W (-2, 2), I (-2, -3) and N (3, 3)

obtuse scalene



$\overline{WI} = 5$

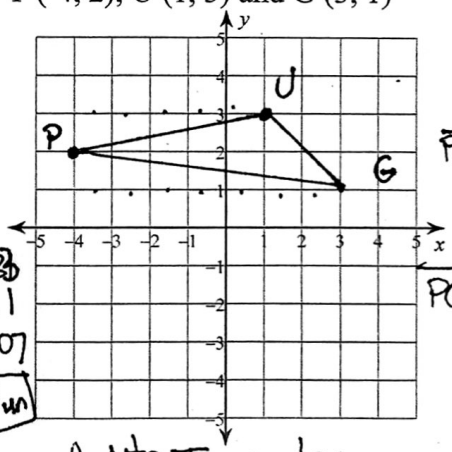
$\overline{WN} = 1^2 + 5^2 = c^2$
$1 + 25 = c^2$
$\sqrt{26} = \sqrt{c^2}$
$c = \sqrt{26}$
≈ 5.10

$\overline{NI} = 5^2 + 6^2 = c^2$
$25 + 36 = c^2$
$c^2 = 61$
$c = \sqrt{61}$
≈ 7.81

$P = 5 + 5.1 + 7.81$
$= 17.91$ un

6) P (-4, 2), U (1, 3) and G (3, 1)

Obtuse scalene



$\overline{UG} = 2^2 + 2^2 = c^2$
$= 4 + 4 = c^2$
$= 8 = c^2$
$c = \sqrt{8} \approx 2.83$

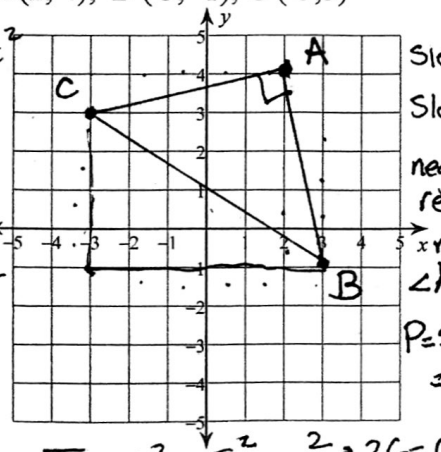
$\overline{PU} = 1^2 + 5^2 = c^2$
$= 1 + 25 = 26 = c^2$
$c = \sqrt{26} \approx 5.1$

$\overline{PG} = 1^2 + 7^2 = c^2$
$1 + 49 = c^2$
$c^2 = 50$
$c = \sqrt{50} \approx 7.07$

$P = 2.83 + 5.1 + 7.07$
$P = 15$ un

7) A (2, 4), B (3, -1), C (-3,3)

Right Isosceles



$\overline{AB} = 1^2 + 5^2 = c^2$
$c^2 = 1 + 25$
$c^2 = 26$
$c = \sqrt{26}$
≈ 5.1

$\overline{BC} = 4^2 + 6^2$
$c^2 = 16 + 36$
$c^2 = 52$
$c = \sqrt{52}$
$c = 7.211$

$\overline{AC} = 1^2 + 5^2 = c^2$
$= 1 + 25 = c^2$
$26 = c^2$
$c = \sqrt{26} \approx 5.1$

Slope $\overline{AB} = \frac{-5}{1}$

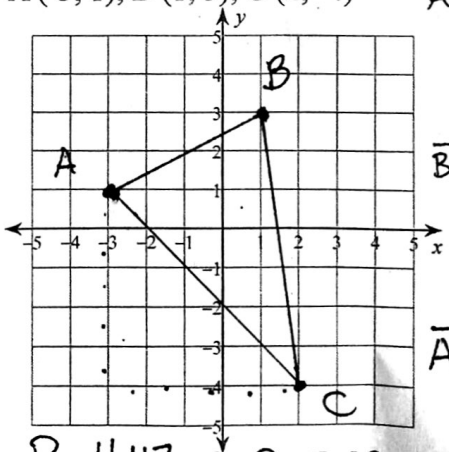
Slope $\overline{AC} = \frac{1}{5}$

negative reciprocals means $\angle A = 90°$

$P = 5.1 + 5.1 + 7.211$
$= 17.41$ un

8) A (-3, 1), B (1, 3), C (2, -4)

Acute Isosceles



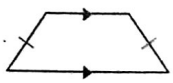
$\overline{AB} = 2^2 + 4^2 = c^2$
$c^2 = 4 + 16 = 20$
$c^2 = 20$
$c = \sqrt{20} \approx 4.47$

$\overline{BC} = 1^2 + 7^2 = c^2$
$c^2 = 1 + 49 = 50$
$c^2 = 50$
$c = \sqrt{50} \approx 7.07$

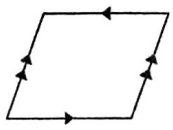
$\overline{AC} = 5^2 + 5^2 = c^2$
$c^2 = 25 + 25 = 50$
$c^2 = 50$ $c = \sqrt{50}$
≈ 7.07

$P = 4.47 + 7.07 + 7.07$
$= 18.61$ un

State the most specific name for each figure.

9) 

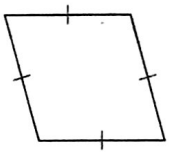
Isosceles Trapezoid

10) 

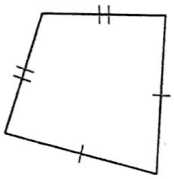
Parallelogram

11) 

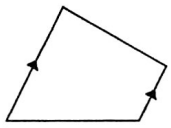
quadrilateral

12) 

rhombus

13) 

kite

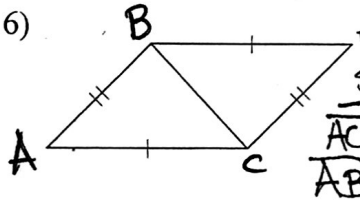
14) 

trapezoid

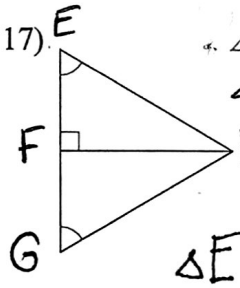
Look through your notes to answer the following questions:

15) List the 5 ways to prove triangles are congruent. SSS, SAS, ASA, AAS or SAA, HL

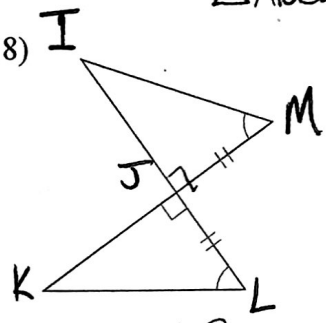
Make a flow chart or two-column proof to prove the triangles are congruent.

16) 

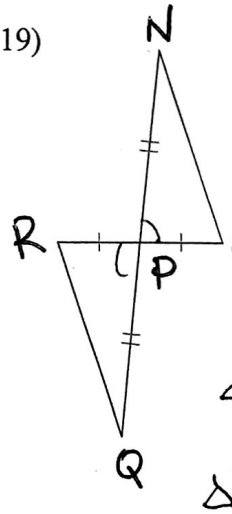
Statements	Reasons
$\overline{AC} \cong \overline{BD}$	Given
$\overline{AB} \cong \overline{DC}$	Given
$\overline{BC} \cong \overline{CB}$	Reflexive Property
$\triangle ABC \cong \triangle DCB$	SSS $\cong$

17) 

S	R
$\angle E \cong \angle G$	Given
$\angle EFH \cong \angle GFH$	Given
$\overline{FH} \cong \overline{HF}$	Reflexive Property
$\triangle EFH \cong \triangle GFH$	AAS $\cong$

18) 

S	R
$\angle M \cong \angle L$	Given
$\overline{JL} \cong \overline{JM}$	Given
$\angle IJM \cong \angle KJL$	Vertical Angles $\cong$
$\triangle IJM \cong \triangle KJL$	ASA $\cong$

19) 

S	R
$\overline{RP} \cong \overline{OP}$	Given
$\overline{PQ} \cong \overline{NP}$	Given
$\angle RPQ \cong \angle OPN$	Vertical Angles $\cong$
$\triangle PQR \cong \triangle PNO$	SAS $\cong$

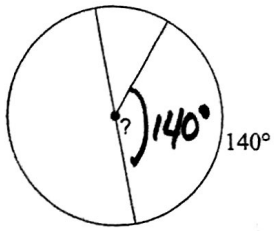
CCSS Geometry Name KEY ID: 1

Finals Review: G7 C Level Test Review

Date_____ Period____

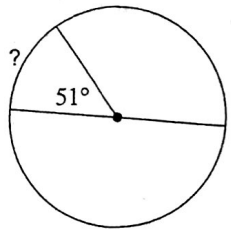
Find the measure of the arc or central angle indicated.

1)



? = 140°

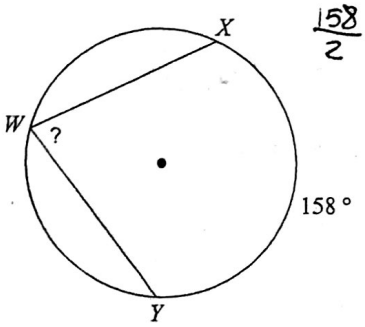
2)



? = 51°

Find the measure of the arc or angle indicated.

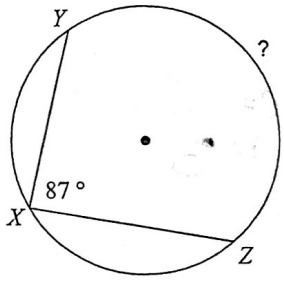
3)



$\frac{158}{2} = 79°$

? = 79°

4)

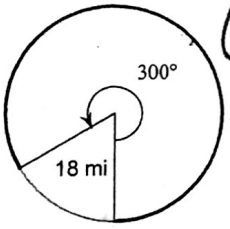


$87 \cdot 2 = 174$

174°

Find the length of each arc. Round your answers to the nearest hundredth.

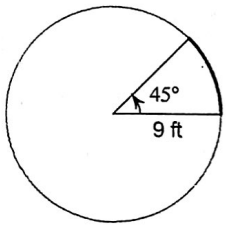
5)



$\left(\frac{300}{360}\right) 2\pi(18)$

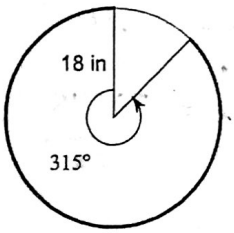
$= 94.25$ mi

6)



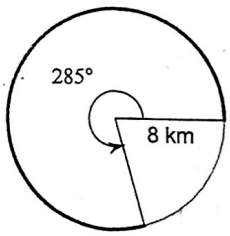
$\left(\frac{45}{360}\right) 2\pi(9) = = 7.07$ ft

7)



$\left(\frac{315}{360}\right) 2\pi(18) = 98.96$ in

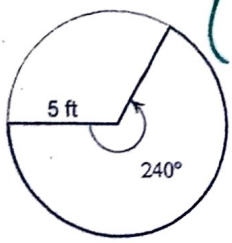
8)



$\left(\frac{285}{360}\right) \cdot 2 \cdot \pi(8) = 39.79$ km

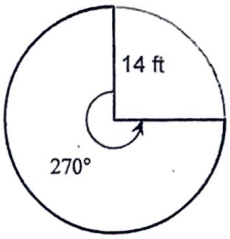
Find the area of each sector. Round your answers to the nearest hundredth.

9) Area = $\left(\frac{240}{360}\right)(5)^2\pi$



$= 52.36\ ft^2$

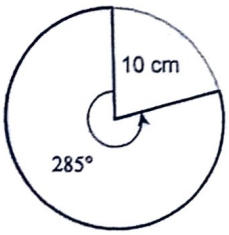
10)



$\left(\frac{270}{360}\right)\pi(14)^2$

$= 461.81\ ft^2$

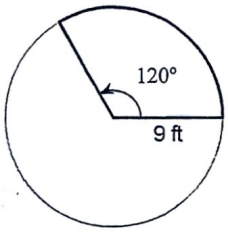
11)



$\left(\frac{285}{360}\right)(10)^2\pi =$

$248.71\ cm^2$

12)

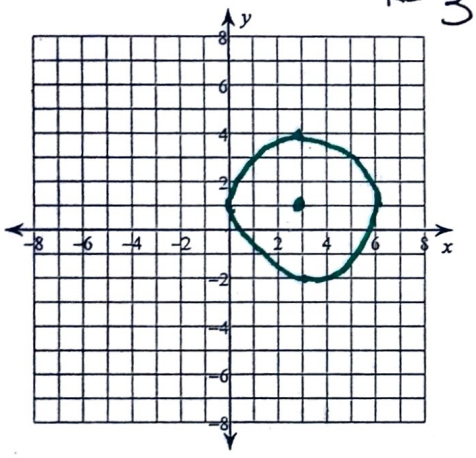


$\left(\frac{120}{360}\right)(9)^2\pi =$

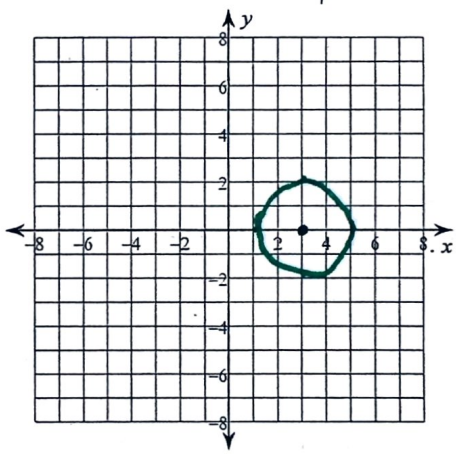
$84.82\ ft^2$

Identify the center and radius of each. Then sketch the graph.

13) $(x-3)^2+(y-1)^2=9$ C = (3,1) R = 3



14) $(x-3)^2+y^2=4$ C = (3,0) R = 2



Use the information provided to write the equation of each circle.

15) Center: (–13, 12)
Radius: 6

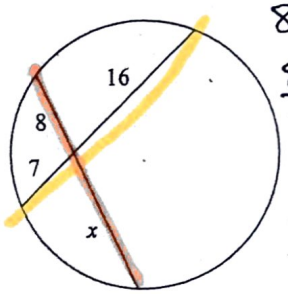
$(x+13)^2+(y-12)^2=36$

16) Center: (4, 5)
Radius: 5

$(x-4)^2+(y-5)^2=25$

Solve for *x*. Assume that lines which appear tangent are tangent.

17)

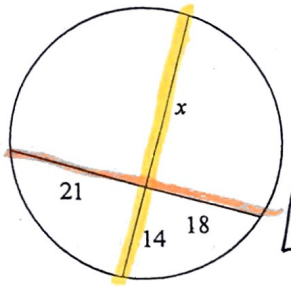


$8x = 7 \cdot 16$

$\frac{8x}{8} = \frac{112}{8}$

$\boxed{x = 14}$

18)



$14x = 21 \cdot 18$

$\frac{14x}{14} = \frac{378}{14}$

$\boxed{x = 27}$

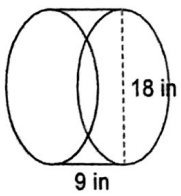
CCSS Geometry Name_____ ID: 1

Finals Review - G8 C Level Test Review

Date_____ Period____

Find the surface area of each figure. Round your answers to the nearest hundredth, if necessary.

1) $R = \frac{18}{2} = 9$



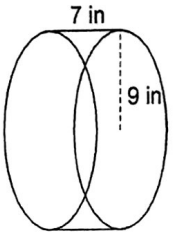
$SA = 2\pi rh + 2\pi r^2$

$= 2\pi \cdot 9 \cdot 9 + 2\pi 9^2$

$= 508.94 + 508.94$

$= \boxed{1017.88 \text{ in}^2}$

2)

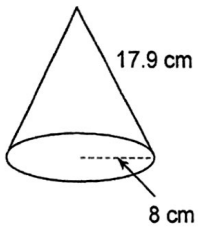


$SA = 2\pi \cdot 9 \cdot 7 + 2\pi 9^2$

$= 395.84 + 508.94$

$= \boxed{904.78 \text{ in}^2}$

3)



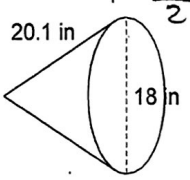
$SA = (\pi r l) + (\pi r^2)$

$= (\pi \cdot 8 \cdot 17.9) + (\pi 8^2)$

$= 449.88 + 201.06$

$= \boxed{650.94 \text{ cm}^2}$

4) $R = \frac{18}{2} = 9$

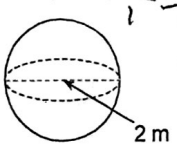


$SA = (\pi \cdot 9 \cdot 20.1) + (\pi 9^2)$

$= 568.31 + 254.47$

$= 822.78 \text{ in}^2$

5) $R = \frac{2}{1} = 1$

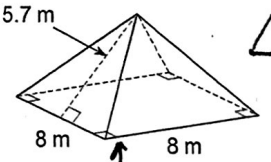


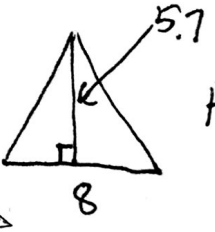
$SA = 4\pi r^2$

$= 4\pi 1^2$

$= \boxed{12.57 \text{ m}^2}$

6)





$A = \frac{bh}{2}$

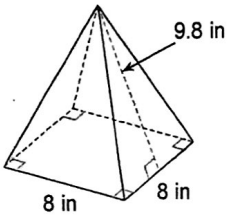
$= \frac{(5.7)(8)}{2} = 22.8$

$= A = 8^2 = 64$

$SA = 4(22.8) + 64$

$= \boxed{155.2 \text{ m}^2}$

7)



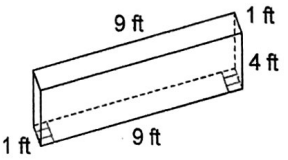
$SA = 4\left(\frac{(9.8)(8)}{2}\right) + 8^2$

$= 4(39.2) + 64$

$= 156.8 + 64$

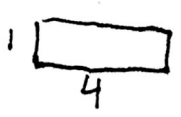
$= \boxed{220.8 \text{ in}^2}$

8)

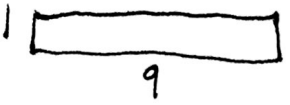


$SA = 2(4 + 9 + 36)$

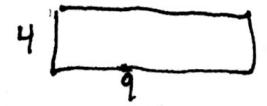
$= 98 \text{ ft}^2$



$= A = 4$



$A = 9$

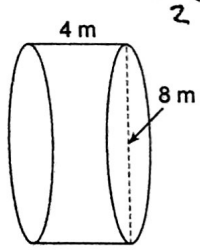


$A = 36$

Find the volume of each figure. Round your answers to the nearest hundredth, if necessary.

9)

$R = \frac{8}{2} = 4$



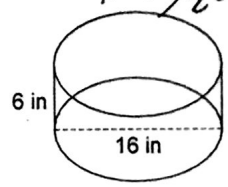
$V = \pi r^2 h$

$= \pi (4)^2 (4)$

$= \boxed{201.06 \text{ m}^3}$

10)

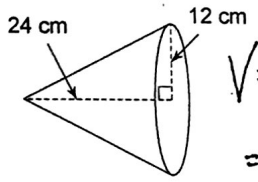
$R = 16/2 = 8$



$V = \pi 8^2 \cdot 6$

$= \boxed{1206.37 \text{ in}^3}$

11)

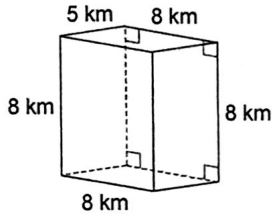


$V = \frac{1}{3} \pi r^2 h$

$= \frac{1}{3} \pi (12)^2 24$

$= \boxed{3619.11 \text{ cm}^2}$

12)

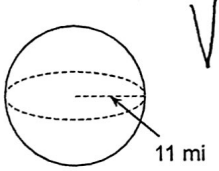


$V = lwh$

$= 8 \cdot 8 \cdot 5$

$= \boxed{320 \text{ km}^3}$

13)

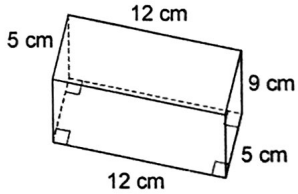


$V = \frac{4}{3} \pi r^3$

$= \frac{4}{3} \pi (11)^3$

$= \boxed{5575.28 \text{ mi}^3}$

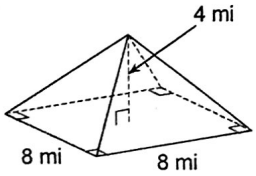
14)



$V = 12 \cdot 5 \cdot 9$

$= \boxed{540 \text{ cm}^3}$

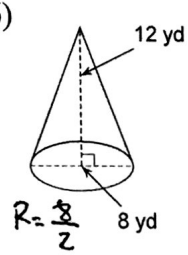
15)



$V = \frac{1}{3} (8 \cdot 8) \cdot 4$

$V = \boxed{85.3 \text{ mi}^3}$

16)



$R = \frac{8}{2}$

$= 4$

$V = \frac{1}{3} \pi r^2 h$

$= \frac{1}{3} \pi 4^2 12$

$= 201.06 \text{ yd}^2$