

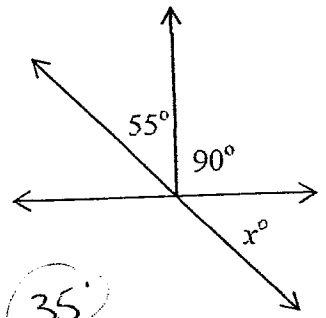
Geometry Review
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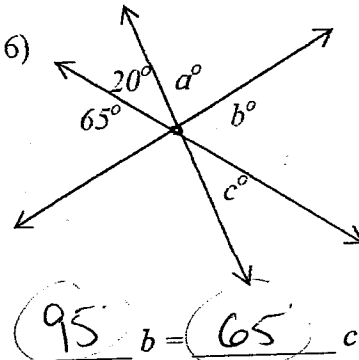
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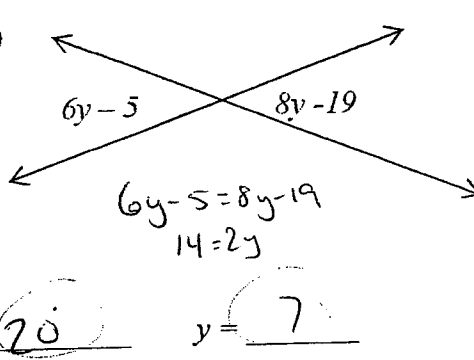
Basic Notation

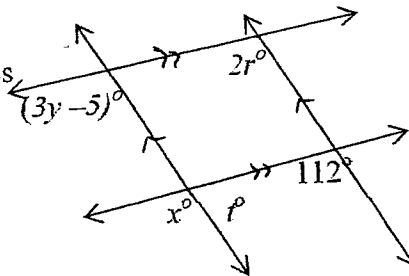
- 1) line KL (b) 2) length of KL (e) Choices: a) \overline{KL} b) \overline{KL} c) \overline{KL}
 3) ray LK (d) 4) segment KL (a) d) \overline{LK} e) KL f) none

Angles

5)  $x = \underline{35^\circ}$

6)  $a = \underline{95^\circ}$ $b = \underline{65^\circ}$ $c = \underline{20^\circ}$

7)  $6y-5 = 8y-19$
 $14 = 2y$
 $y = \underline{7}$

8) Assume \parallel lines 

$r = \underline{56}$
 $t = \underline{68}$
 $x = \underline{112}$
 $y = \underline{39}$

$3y-5 = 112$
 $3y = 117$
 $y = 39$

$2r = 112$
 $r = 56$

	Angle Measure	Complement	Supplement
9)	25°	65°	155°
10)	58°	32	122
11)	10°	80°	170°

Which 2 lines (if any) are \parallel given that the statement is true? (#12-16)

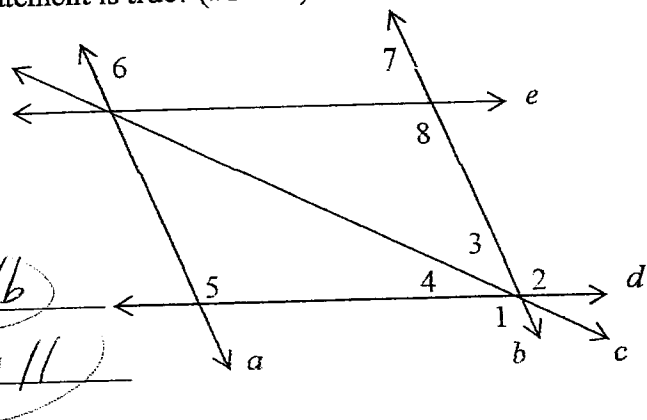
12) $m\angle 5 = m\angle 2$ ^{Corr. \angle s} $a \parallel b$

13) $m\angle 2 = m\angle 1$ ^{Vert. \angle s} no \parallel

14) $m\angle 6 = m\angle 8$ ^{alt. int. \angle s} $a \parallel b$

15) $m\angle 3 + m\angle 4 + m\angle 5 = 180$ ^{S-S int. \angle s} $a \parallel b$

16) $\angle 8$ and $\angle 7$ are supplementary no \parallel



Geometry Review
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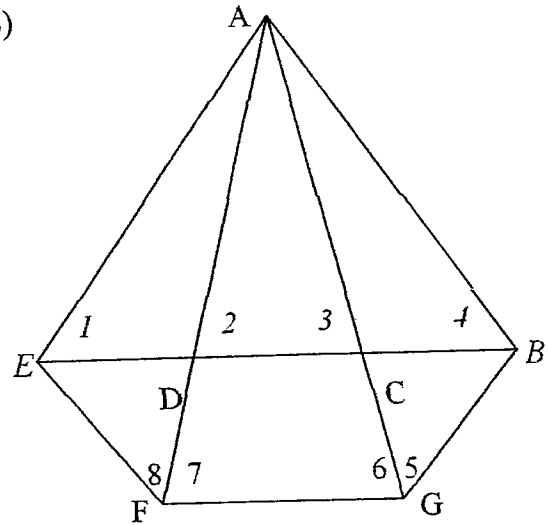
Use the picture to the right to answer the questions. (#27-28)

27) If $\triangle BAE$ is isosceles with $\overline{BA} \cong \overline{EA}$, then

\angle (1) $\cong \angle$ (4)

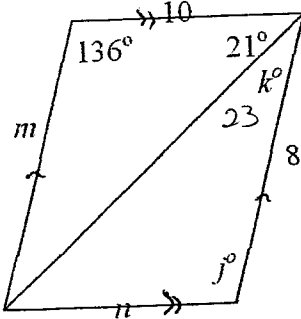
28) If $\angle 6 \cong \angle 7$ and are in an isosceles triangle, then

which two segments are \cong ? (AG) \cong (AF)



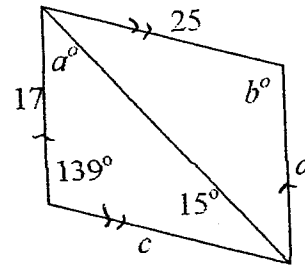
Assume each is a parallelogram (#29-30)

29)



$m =$ (8)
 $n =$ (10)
 $k =$ (23)
 $j =$ (136)

30)



$a =$ (26)
 $b =$ (139)
 $c =$ (25)
 $d =$ (17)

Scale Factor & Similar Figures

Quad CDEF ~ Quad PQRS (#31-38)

31) Scale factor = (4:1) 12:3

32) $SP =$ (4) $\frac{4}{1} = \frac{16}{x}$

33) $QP =$ (8) $\frac{4}{1} = \frac{32}{x}$

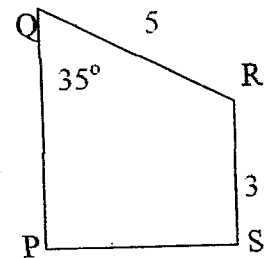
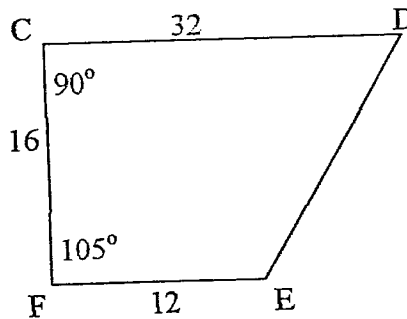
34) $DE =$ (20) $\frac{4}{1} = \frac{x}{5}$

35) $m\angle P =$ (90)

36) $m\angle S =$ (105)

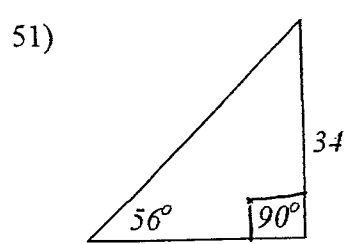
37) $m\angle D =$ (35)

38) $m\angle E =$ (130)

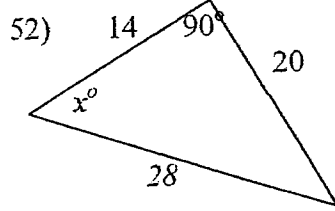


Basic Trigonometry – Sine, Cosine, & Tangent - SOHCAHTOA

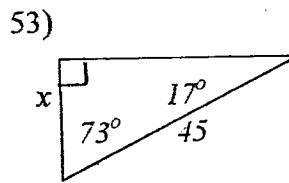
Write an equation that can be used to find x , then find x to the nearest tenths place. (#51-54)



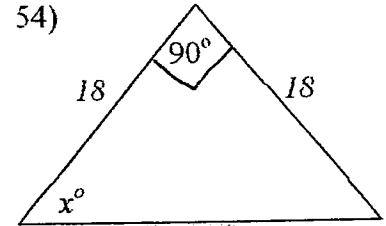
$\tan 56^\circ = \frac{34}{x}$
22.9



$\tan x = \frac{20}{14}$
55°

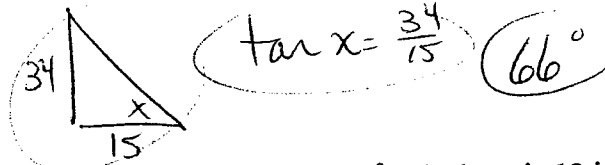


$\sin 17^\circ = \frac{x}{73}$
13.2



$\tan x = \frac{18}{18}$
45°

55) A flagpole is 34 meters tall casts a shadow of 15 meters long. What is the angle of elevation to the sun to the nearest degree?

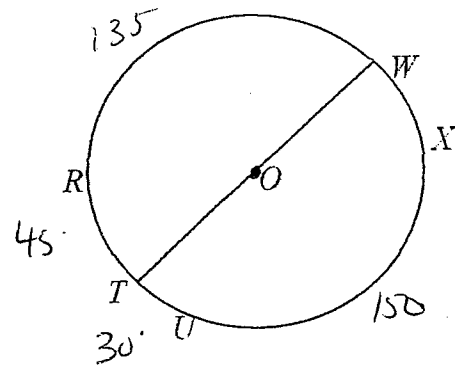


56) The base angles of an isosceles triangle are each 50°. The base is 18 inches long. Find the length of the altitude to the base to the nearest tenth of an inch.



Circles

- True/False (#57-62)
- 57) False \widehat{TO} is always twice \widehat{WT}
- 58) True \widehat{WU} is a minor arc
- 59) True \widehat{WRU} and \widehat{XUT} are both major arcs
- 60) False A semicircle is 190°
- 61) False $m\widehat{RT} + m\widehat{RW} = m\widehat{TU} + m\widehat{UX}$
- 62) True A diameter is always a chord.



Find each arc measure - Assume $\widehat{TU} = 30^\circ$ and $\widehat{TR} = 45^\circ$ (Use the picture above)

- 63) $m\widehat{UR} = 75^\circ$ 64) $m\widehat{RW} = 135^\circ$ 65) $m\widehat{WXT} = 180^\circ$
- 66) $m\widehat{WU} = 150^\circ$ 67) $m\widehat{IXR} = 315^\circ$ 68) $m\widehat{TWU} = 330^\circ$

Ratios

93) The radii of two similar cylinders are 2 and 5. Find the ratio of their:

Lateral Areas: 4:25 Volumes: 8:125 Heights: 2:5

94) The volumes of two similar rectangular solids are 125 cm^3 and 64 cm^3 . Find the ratio of their:

Base Perimeters: 5:4 Base Areas: 25:16 Lengths: 5:4

95) The ratio of two complementary angles is 4:5. Find the two angles.

$$4x + 5x = 90$$

$$9x = 90$$

$$x = 10$$

40 + 50

Other Main Ideas – Sometimes, Always, Never

- 1) Two horizontal planes N intersect.
- 2) A straight angle is N 190° .
- 3) A ray N has a midpoint.
- 4) Congruent segments A have equal lengths.
- 5) Two rays with the same endpoint A form an angle.
- 6) If M is the midpoint of \overline{GH} , then GM A equals MH .
- 7) Two intersecting planes N intersect in exactly one point.
- 8) Perpendicular lines N form acute angles.
- 9) Vertical angles are A congruent.
- 10) Two lines \parallel to a 3rd line are A \parallel .
- 11) In a plane, 2 lines \perp to a 3rd line are A \parallel .
- 12) An isosceles triangle is S equilateral.
- 13) An equiangular triangle is A equilateral.
- 14) An equilateral triangle is A isosceles.
- 15) If $\triangle GHI \cong \triangle JKL$, then $\angle G$ is S $\cong \angle K$.
- 16) If $\triangle GHI \cong \triangle JKL$, then \overline{HI} is A $\cong \overline{KL}$.
- 17) An altitude is A \perp to the opposite side.
- 18) A \perp bisector is A equidistant from the endpoints of the segment.
- 19) All angles of a parallelogram are S congruent.
- 20) A parallelogram is A a quadrilateral.
- 21) All sides of a parallelogram are S congruent.
- 22) A rhombus is A a parallelogram.
- 23) A rhombus is S a square.
- 24) A rectangle is S a rhombus.
- 25) A square is A a rhombus.
- 26) Two rectangles are S similar.
- 27) Two squares are A similar.
- 28) A right triangle and a scalene triangle are S similar.
- 29) A scalene and an isosceles triangles are N similar.

Geometry Review
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Name: _____

Hour: _____

Perimeters & Areas

Find the area of each figure. (#69-77)

69) A triangle with a base of 13 cm and a height of 18 cm.

$$\frac{1}{2} \cdot 13 \cdot 18 = 117 \text{ cm}^2$$

70) A rhombus with diagonals of 14 and 8 feet.

$$\frac{1}{2} \cdot 14 \cdot 8 = 56 \text{ ft}^2$$

71) A rectangle with a base of 22 inches and a height of 9 inches.

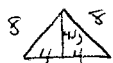
$$22 \cdot 9 = 198 \text{ in}^2$$

72) A square with a side of 7 meters.

$$7^2 = 49 \text{ m}^2$$

73) An equilateral triangle with a perimeter of 24 inches.

$$24 \div 3 = 8$$



$$\frac{1}{2} \cdot 8 \cdot 4\sqrt{3} = 16\sqrt{3} \text{ in}^2$$

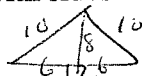
74) A trapezoid with bases of 9 and 7 inches and a height of 9 inches.

$$\frac{1}{2} (9+7) \cdot 9 = 72 \text{ in}^2$$

75) A parallelogram with a base of 5 meters and a height of 42 meters.

$$5 \cdot 42 = 210 \text{ m}^2$$

76) An isosceles triangle with sides 10 cm, 10 cm, and 12 cm.



$$\frac{1}{2} \cdot 12 \cdot 8 = 48 \text{ cm}^2$$

77) A square with a perimeter of 64 feet.

$$64 \div 4 = 16^2 = 256 \text{ ft}^2$$

78)

$A = 48$ $P = 46$

79) Find the height and the area of a rectangle with a perimeter of 80 in. and a base of 16 in.

$$\begin{array}{r} 80 \\ -16 \\ \hline 64 \\ -16 \\ \hline 48 \div 2 = 24 \text{ in} = \text{height} \end{array}$$

$$24 \cdot 16 = 384 \text{ in}^2 = \text{area}$$

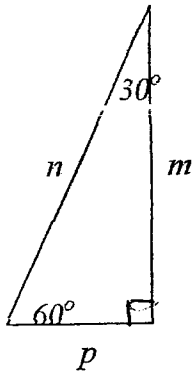
80) Find the perimeter of a square with an area of 144 ft².

$$12 \text{ ft} \cdot 4 = 48 \text{ ft}$$

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30-60-90 Triangles



39) $n = 24$ $p = 12$

$m = 12\sqrt{3}$

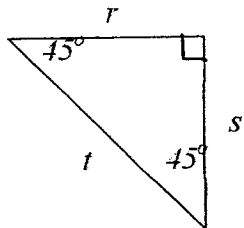
40) $m = 30 = \frac{30}{\sqrt{3}} p$ $p = 10\sqrt{3}$

$n = 20\sqrt{3}$

41) $p = 17$ $n = 34$

$m = 17\sqrt{3}$

45-45-90 Triangles



42) $r = 16$ $s = 16$

$t = 16\sqrt{2}$

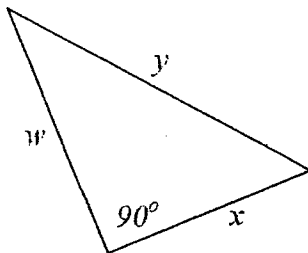
43) $s = 11$ $r = 11$

$t = 11\sqrt{2}$

44) $t = 28 = \sqrt{2} r$ $r = 14\sqrt{2}$

$s = 14\sqrt{2}$

Pythagorean Theorem



$7^2 + 3^2 = y^2$
 58
45) $x = 7$ $w = 3$ $y = \sqrt{58}$

$26^2 = 24^2 + w^2$
46) $y = 26$ $x = 24$ $w = 10$

$7 + 18 = y^2$
 25
47) $w = \sqrt{7}$ $x = 3\sqrt{2}$ $y = 5$

Triangle Types

Name the type of triangle with the following side lengths if possible. (#48-51)

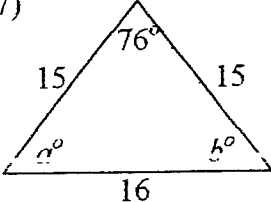
48) 8, 8, 8 acute + equilateral 49) $16, 25, 6$ obtuse

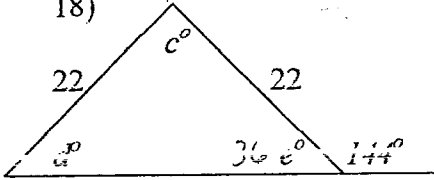
50) 6, 8, 14 not possible
 $b/c 6+8=14$ 51) $15, 8, 17$ right Δ
 $225, 64, 289$

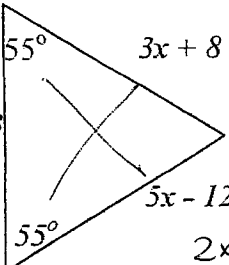
Geometry Review
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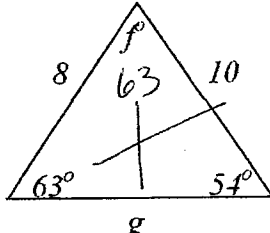
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Solve for each variable. (#17-20)

17)  $a^\circ = \underline{52}$
 $b^\circ = \underline{52}$
 $180 \div 2$

18)  $c^\circ = \underline{108}$
 $d^\circ = \underline{36}$
 $e^\circ = \underline{36}$

19)  $x = \underline{10}$
 $5x - 12 = 3x + 8$
 $2x = 20$

20)  $f = \underline{63}$
 $g = \underline{10}$

Find the missing angle measure and tell the type of triangle (acute, right, or obtuse) (#21-23)

21) $63^\circ, 28^\circ, \underline{89^\circ}$
acute Δ

22) $80^\circ, 80^\circ, \underline{20^\circ}$
acute Δ

23) $22^\circ, 41^\circ, \underline{117^\circ}$
obtuse Δ

24) Find the following about a regular octagon:

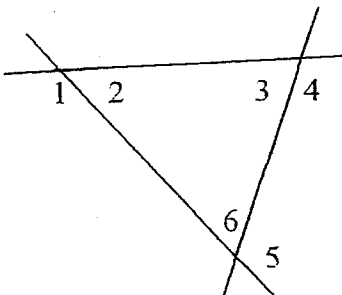
$180(8-2)$

$1080/8$

$360/8$

- Number of sides: 8
Sum of interior angles: 1080
Measure of 1 interior angle: 135
Sum of exterior angles: 360
Measure of 1 exterior angle: 45

Use the picture to answer the following questions (#9-14)



25) If $m\angle 6 = 3x - 7$, $m\angle 3 = x + 10$, & $m\angle 2 = 2x - 15$, find x .

$3x - 7 + x + 10 + 2x - 15 = 180$

$6x - 12 = 180$

$6x = 192 \quad x = 32$

$x = \underline{32}$

26) If $m\angle 2 = 46^\circ$ & $m\angle 5 = 120^\circ$, find $m\angle 6$ & $m\angle 3$

180
 -120
 $\hline \angle 6 = 60$

180
 -46
 -60
 $\hline 74$

$m\angle 6 = \underline{60}$
 $m\angle 3 = \underline{74}$