a)

$\angle 1 + \angle 2 =$ ___ °

b)

$\angle 3 + \angle 4 =$ ___ °

c)

$\angle 5$ ___ $\angle 6$

d)

P T
-8 10

$PT =$ ___ , whereas the midpoint of $\overline{PT} =$ ___ .

2.

a) $\angle 1$ and $\angle 5$ are called ___ $\angle$s

b) $\angle 3$ and $\angle 6$ are called ___ $\angle$s

c) name all $\angle$s congruent to $\angle 1$ _____

d) what relationship exists between $\angle 4$ and $\angle 6$. _____

3.
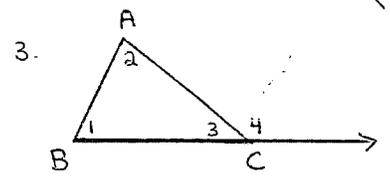
a) the angles of the $\triangle$ are in the ratio $4:5:6$. Find the measure of each angle. ___, ___, ___ .

b) $\angle 1 + \angle 2 = \angle$ ___

c) if $\angle 4 = 130°$, find the other angle measures. of the isosceles $\triangle$ with $AB = AC$. ___, ___, ___ .

4.
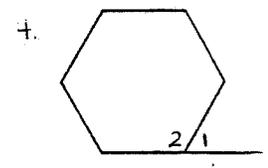
given a regular hexagon find a) the sum of the $\angle$s ___
b) $m\angle 2$; $m\angle 1$ ___, ___

5.
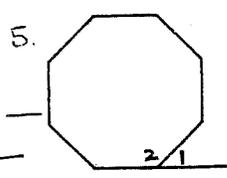
given a regular octagon, find

a) the sum of the $\angle$s ___

b) $m\angle 2$; $m\angle 1$ ___, ___

6.
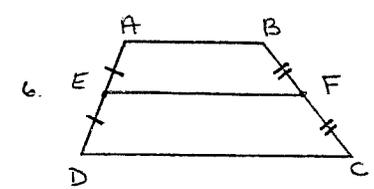
$ABCD$ is a trapezoid.

a) $m\angle A = 110°$ find $m\angle FED$, $m\angle D$. ___, ___

b) name the median of the trapezoid ___

c) if $AB = 12$ and $CD = 20$ then $EF =$ ___

7.
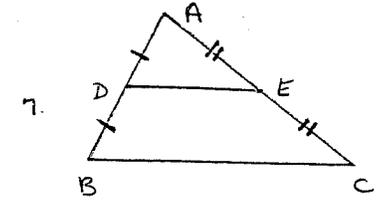
a) $DECB$ is a ___ .

b) if $BC = 17$ then $DE =$ ___ .

c) $DE = 3x - 1$, $BC = 5x + 1$. find x ___

8. a) In $\triangle PQR$ $\angle P = 63°$, $\angle Q = 60°$. Find the longest and shortest sides of the $\triangle$ ___, ___

b) In $\triangle ABC$, $AB = 5$, $BC = 6$, $AC = 4$. Find the largest and smallest $\angle$s of the $\triangle$. ___, ___

c) In $\triangle TWR$, $\angle T = \angle W$. Name the equal sides. ___, ___

d) Two sides of a $\triangle$ are 8 and 12. The third side must have length greater than ___ but less than ___ .

9.
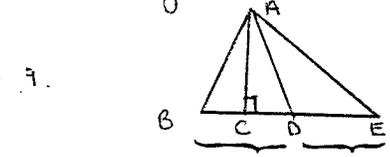
a) name the median of $\triangle ABE$ ___

b) name the altitude of $\triangle ABE$. ___

10. a) $h = ?$ b) $x = ?$ c) $x = ?$

    h 6   9   4 x 6 $4\sqrt{5}$ $3\sqrt{2}$ x

d) $30°$ 10 b $60°$ a

    $a = ?,\ b = ?$

e) 45 a c $45°$ 72 $a = ?$ $c = ?$
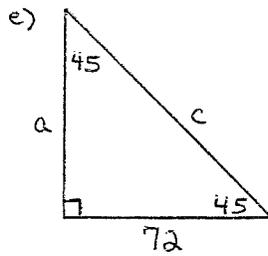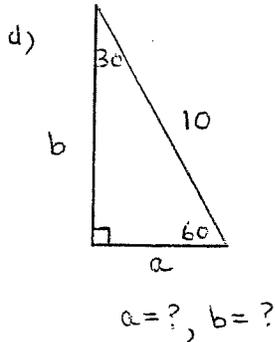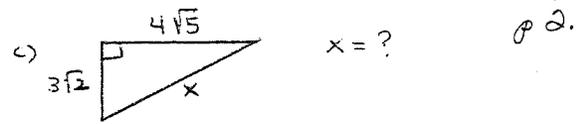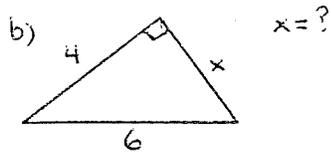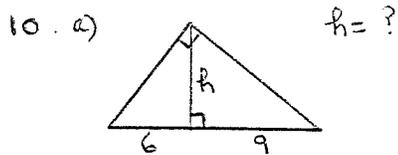
f) Is the △ acute, right, or obtuse with lengths given below:

  (i) 4, 5, 6 _____

  (ii) 6, 8, 11 _____

  (iii) 7, 24, 25 _____

  (iv) 6, 6, 13 _____

11. Write an equation using trigonometry to solve for x:
USE SOHCAHTOA.

a) x $50°$ 125

b) x 25 100

c) 200 $48°$ x
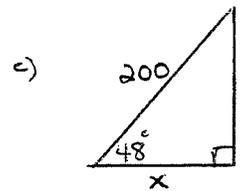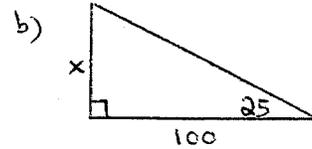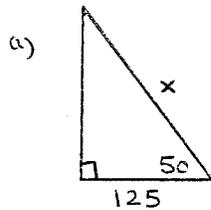
d) Draw your own right △ and find the $\sin 30°$, $\tan 60°$, $\cos 45°$ (exact values!!)

12. Find each angle measure:
⊙O

$98°$ 1   2

80 3 $120°$ 4

$90°$ 5   6 $50°$

$110°$ $50°$ 7

3 Find x:

a) $245°$ $x°$

b) $48°$ $x°$

c) $90°$ 65 $x°$

d) $70°$ 80 $x°$

4. Find the area of each:

a) 5   13   12

b) 10 $30°$ 14

c) 10   8 $60°$

d) 10   11   18

e) 5

f) 14

g) A   6   B   area of shaded region,
length of $\overarc{AB}$
length of $\overline{AB}$

h) $9\sqrt{2}$
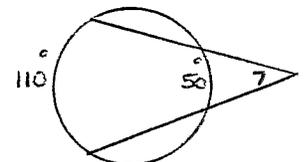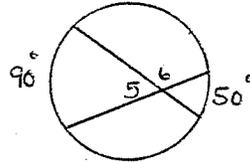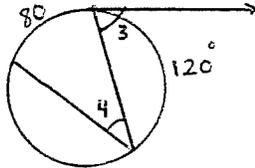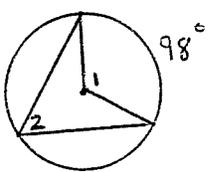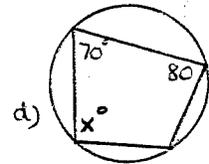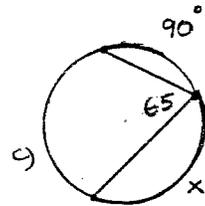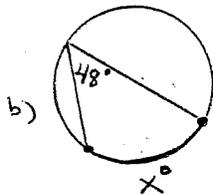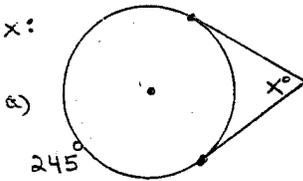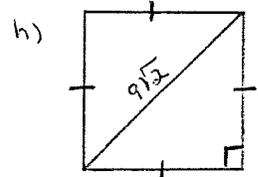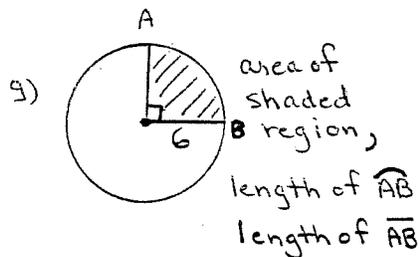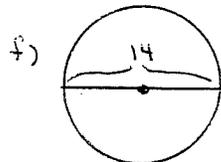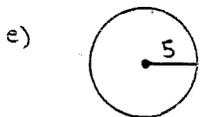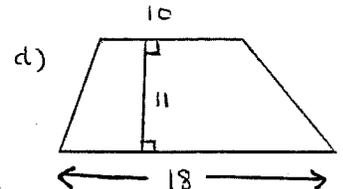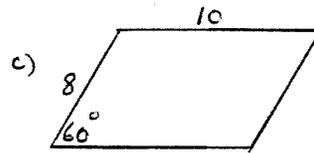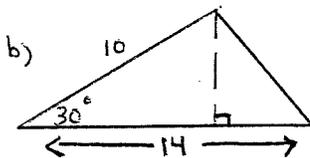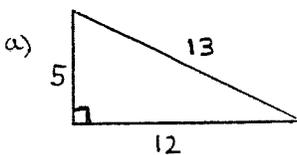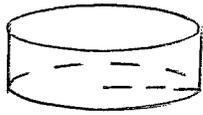
15. cylinder with radius 3cm and height 2cm
a) LA   b) TA   c) V
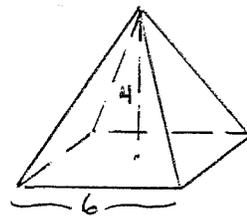
16. square pyramid with height 4, base edge 6
find
a. slant height
b. LA   c TA   d. V.
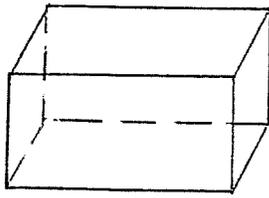
17. $l = 12$ $w = 3$ $h = 4$, find
a) length of diagonal of solid
b) TA   c) V.

18. Let $A = (3,2)$ and $B = (-1,8)$ find a) AB   b) midpoint of $\overline{AB}$ c) slope of $\overleftrightarrow{AB}$
d) slope of any line parallel to $\overleftrightarrow{AB}$ e) slope of any line $\perp$ to $\overleftrightarrow{AB}$
f) equation of $\overleftrightarrow{AB}$.

19. Sketch each of the following lines and indicate its slope.
a) $x = 3$ b) $y = 2$ c) $x + 2y = 10$

20. 2 Similar prisms have heights 4cm and 6cm. Find each ratio: a) scale factor
b) lateral areas   c) total areas   d) volumes   c) perimeters of base.

21. Find x:
a)   b)   c)   d)   e) Area = x
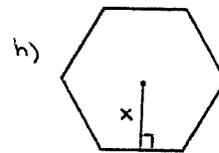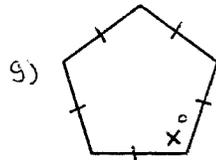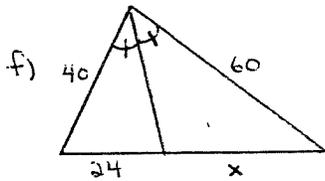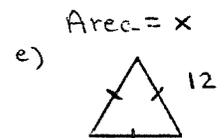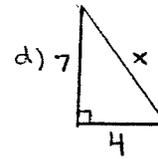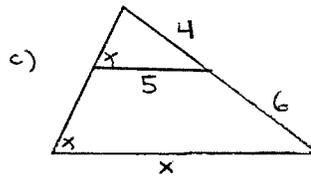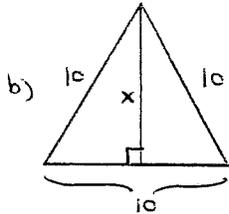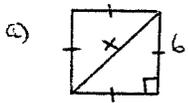
f)   g)   h) regular hexagon with side = 8   i)
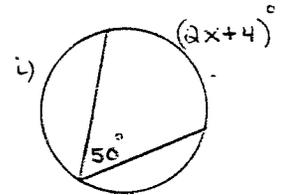
j) M is the midpoint of $\overline{AB}$ k)   l) ⊙C   m)

n.)   o) $\angle 1 = 5x - 12$ $\angle 2 = 2x + 15$ p)
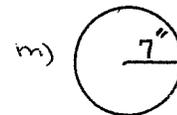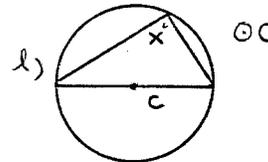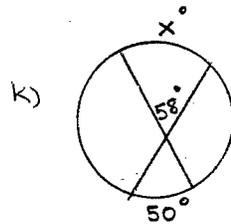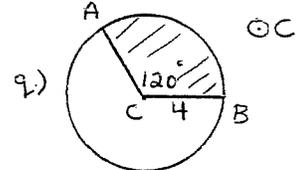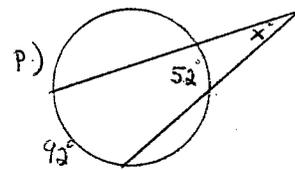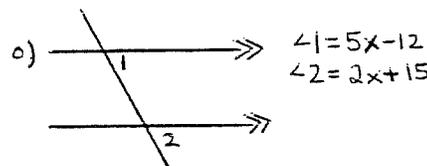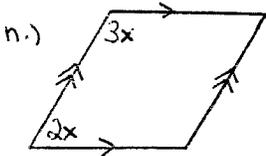
circumference = x
q) ⊙C
m $\overarc{AB}$, length $\overarc{AB}$, area of shaded region.

r) x = # of diagonals in a hexagon.

22. Find the length of $\overline{AB}$ in $\triangle ABC$, if $BC = 24$, $AC = 18$ and $m\angle C = 50°$. (nearest tenth)

23.

64° 38°
200
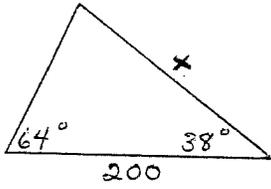
Find x to the nearest tenth.

24. Find the ratio of the area of $\triangle ABC$ to $\triangle DBC$. State a reason.

A
5
B
C
5
D
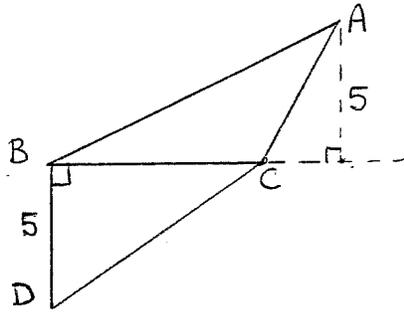
25. Find the ratio of the areas of $\triangle ABC$ to $\triangle DCE$. State a reason.

A   D
B   30   C   20   E
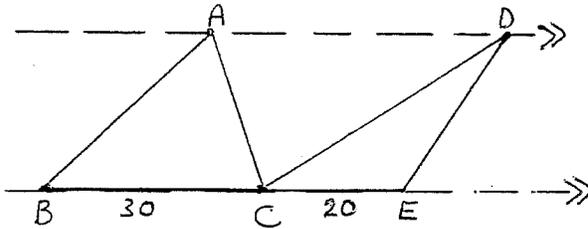
26. Find the ratio of the areas of $\triangle ACB$ to $\triangle ECD$. State a reason.

A
8   9   D
C   6
12   E
B
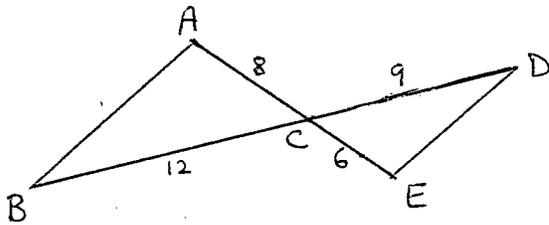
Geometry Review Answers

1. a) 180 b) 90 c) ≅ d) 18, 1   2 a) corr. ∠s b) alt. int ∠s c) ∠4,5,8 d) sum=180

3. a) 48,60,72 b) 4 c) ∠1=50, ∠2=80, ∠3=50.   4. a 720 b. 120,60

5. a) 1080 b) 135, 45   6. a) 110, 70 b) $\overline{EF}$ c) 16   7. a) trapezoid b) $8\frac{1}{2}$ c) 3

8. a) $\overline{RQ}$, $\overline{PQ}$ b) ∠A, ∠B c) $\overline{TR} = \overline{WR}$ d) 4, 20   9 a) $\overline{AD}$ b) $\overline{AC}$

10. a) $3\sqrt{6}$ b) $2\sqrt{5}$ c) $7\sqrt{2}$ d) a=5, b=$5\sqrt{3}$ e) a=72, c=$72\sqrt{2}$ f) (i) acute
(ii) obtuse (iii) right (iv) not possible   11. a) $\cos 50° = \frac{125}{x}$ b) $\tan 25° = \frac{x}{100}$
c) $\cos 48 = \frac{x}{200}$ d) $\frac{1}{2}$, $\frac{\sqrt{3}}{1}$, $\frac{\sqrt{2}}{2}$.   12. ∠1=98°, ∠2=49°, ∠3=60°,
∠4=40°, ∠5=70°, ∠6=110, ∠7=30°   13. a) 65° b) 96° c) 140° d) 100°

14. a) 30 b) ?=5, A=35 c) $40\sqrt{3}$ d) 154 e) 25π f) 49π g) A=9π, L=3π,
                                                                                                            AB=$6\sqrt{2}$
h) 81   15. a) 12π cm² b) 30π cm² c) 18π cm³   16. a) 5 b) 60 c) 96 d) 48

17. a) 13 b) 192 c) 144   18. a) $2\sqrt{13}$ b) (1,5) c) $\frac{-3}{2}$ d) $\frac{-3}{2}$ e) $+\frac{2}{3}$ f) $y-8=\frac{-3}{2}(x+$

19. a)
slope undefined

b)
slope = zero

c)
$y=\frac{-1}{2}x+5$, ∴ slope $=\frac{-1}{2}$
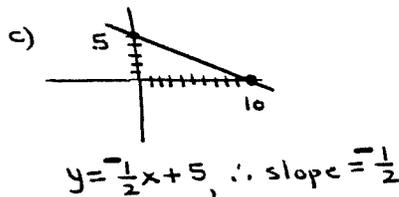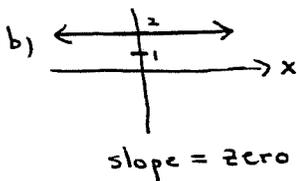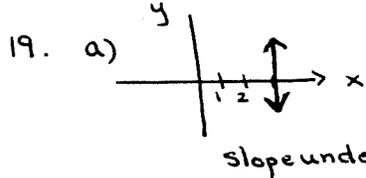
or $y = \frac{-3}{2}x + \frac{13}{2}$
or $y-2=\frac{-3}{2}(x-3)$

20 a) $\frac{2}{3}$ b) $\frac{4}{9}$ c) $\frac{4}{9}$ d) $\frac{2^3}{3^3}$ or $\frac{8}{27}$ e) $\frac{2}{3}$

21 a) $6\sqrt{2}$ b) $5\sqrt{3}$ c) 12.5 d) $\sqrt{65}$ e) $36\sqrt{3}$ f) 36 g) 108° h) $4\sqrt{3}$
i) 48 j) −18 k) 66 l) 90° m) 14π in² n) 36 o) 9 p) 20
q) 120°, $\frac{8\pi}{3}$, $\frac{16\pi}{3}$ r) 9 | 22. 18.6 | 23. 183.8 | 24. 1:1 | 25 3:2 | 26 16:9
                                                                      (=bases & heights | =heights | ∼∆s; a²:b².