Geometry Formulas

Circle: $C = 2\pi r$ or $C = \pi d$ Rectangle: $A = L \cdot W$

       $A = \pi r^2$

Triangle: $A = \dfrac{1}{2} b \cdot h$ Parallelogram: $A = b \cdot h$

Rectangular Solid: $V = L \cdot W \cdot H$ Cylinder: $V = \pi r^2 h$

Cone: $V = \dfrac{1}{3} \pi r^2 h$ Sphere: $V = \dfrac{4}{3} \pi r^3$

Square-Based Pyramid: $V = \dfrac{1}{3} s^2 h$ ANSWERS:

1.) a) Round 20.5655 to the nearest whole.   1a) _____

   b) Write "Nine and eight hundredths" in standard form.   1b) _____

2.) Divide and write your answer in **simplest form**: $13\dfrac{1}{2} \div 3$ 2) _____

3.) Write $\dfrac{1}{16}$ as a percent.   3) _____

4.) Multiply: 0.283×0.3 4) _____

5.) 33 is what percent of 55?

5)_____

6.) A car can travel 180 miles on 5 gallons of gasoline. How far can the car travel on a full tank of 7 gallons?

6)_____

7.) Write 5% as a fraction or mixed number in **simplest form**.

7)_____

8.) Add: $-\dfrac{5}{11}+\dfrac{3}{9}$ and simplify.

8)_____

9.) A triangle has sides of length 2.04 feet, 6.9 feet and 9.37 feet. Find its perimeter. (answer must have units)

9)_____

10.) Write the numbers in order from smallest to largest: $0.\overline{9}$, 0.09, $\dfrac{9}{10}$, 0.901
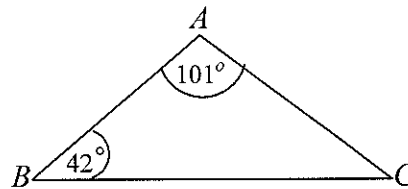
10)_____

_____

11.) Subtract: $95.07 - 4.216$

11)_____

12.) Perform the operation: $-24 \div 8 \times 3$

12)_____

For Questions 13 and 14 use the Triangle to the right:

13.) Find the missing angle. (answer must have units)

13)_____

14.) Is $\angle C$ acute, obtuse, or a right angle?

14)_____

15.) Write in **simplest form**: $42 \times 100 \div 0.1$

15)_____

16.) The sales tax on one-half-carat diamond ring is $24. (answer must have units)

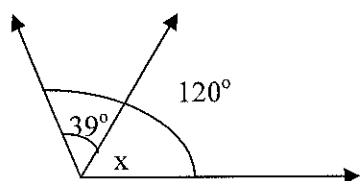   a) Find the purchase price of the ring (before tax) if the sales tax is 6%.
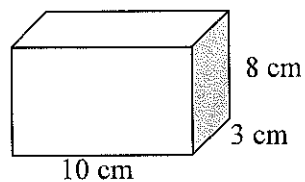
16a)_____

    b) Find the total price of the ring.

16b)_____

17.) Find $m\angle x$ in the diagram below. (answer must have units)

120°

39°

x

17)_____
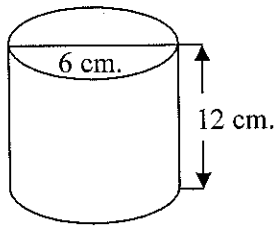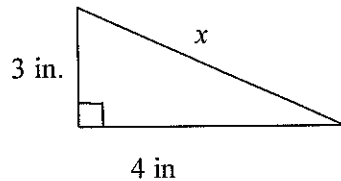
18.) Find the volume: (answer must have units)

8 cm

3 cm

10 cm

18)_____

19.) Find the volume (leaves answer in terms of π and write the units).

6 cm.

12 cm.

19)_____

20.) Use the following triangle: (answer must have units)

x

3 in.

4 in

a) Find the missing side

20a)_____

b) Find the area

20b)_____

21.) Multiply and reduce, if possible: $-6\frac{2}{3}\cdot\left(-2\frac{2}{5}\right)$

21)_____

22.) A circle has a radius of 6 in. (leave answer in terms of π and write the units).

    a) Find the Area

22a)_____

    b) Find the Circumference

22b)_____

Refer to the following data for questions 23 – 25:   25, 35, 6, 14, 16, 6

23.) Find the mean:

23)_____

24.) Find the median:

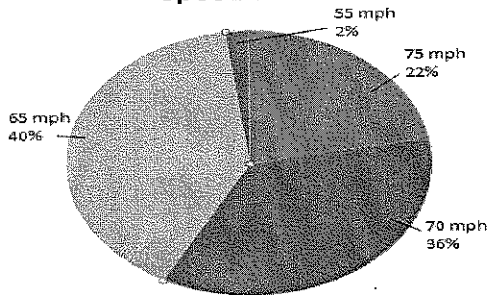24)_____

25.) Find the mode:

25)_____

26.) The circle graph below shows the percent of the 50 state with various rural interstate highway speed limits in 2000.

Percent of States with Rural Interstate Highway Speed Limit

55 mph 2%
75 mph 22%
65 mph 40%
70 mph 36%

26a)_____

   a) What percent had a rural interstate highway speed limit of 75mph?

   b) How many states had a rural interstate highway speed limit of 75mph? (Do not give a percentage answer!)

26b)_____

27.) Simplify: $-(8x-y)-3(2x+4y)$

27)_____

28.) Fill in the blank with < or >: $0.\overline{7}$ _____ 0.77

28)_____

29.) Given $\left\{\dfrac{1}{5},\ \sqrt{2},\ \pi,\ \dfrac{2}{3}, -4\right\}$, list the numbers that belong to the set of:

   a.) Integers

29a)_____

   b.) Rational numbers

29b)_____

30.) Perform the operation: $-22 - 22$

30)_____

31.) Simplify and reduce: $\left(\dfrac{1}{2}\right)^2 + 2\dfrac{1}{3} \cdot \dfrac{3}{14}$

31)_____

32.) Simplify using order of operations and **reduce** if possible: $\dfrac{11-(-6)+|2-6|}{1+3 \cdot 2}$

32)_____

33.) Is $\dfrac{3}{5} = \dfrac{4}{8}$ a true proportion? If not, why?

33)_____

34.) Decide whether $x = 4$ is a solution to the following equation:

$-3x - 12 = 9(x-3)$

34)_____

35.) Ken had \$53 in his checking account. If he writes a check for \$12.82 and then another check for \$27.09, how much money does he have left?

35)_____