A & W Math 11   **Initial Assignment (Review of Math 8-10)**

Multiple Choice

Identify the choice that best completes the statement or answers the question.

_____   1.   Convert 136% to a decimal.

       a.   1.13   c.   1.36
       b.   13.6   d.   1.94

_____   2.   What is 241% of 4206?

       a.   1013646   c.   0.06
       b.   10136.46   d.   1745.23

_____   3.   Which of the following is equivalent to $\frac{4}{7}$?

       a. $\frac{15}{24}$ b. $\frac{13}{19}$ c. $\frac{12}{21}$ d.   11

_____   4.   Which of the following is equivalent to $\frac{9}{5}$?

       a. $\frac{42}{71}$ b. $\frac{73}{38}$ c. $\frac{75}{43}$ d. $\frac{72}{40}$

_____   5.   A triangle has one leg that is 3.2 m long and the other is 4.3 m long. What is the length of the hypotenuse?

       a.   5.4 m   c.   7.7 m
       b.   2.7 m   d.   2.9 m

_____   6.   A circle has how many degrees?

       a.   180°   c.   300°
       b.   100°   d.   360°

_____   7.   The dependent variable goes on which axis of a graph?

       a.   *x*-axis   c.   any axis, it doesn't matter which one.
       b.   *y*-axis   d.   *z*-axis

_____   8.   The independent variable goes on which axis of a graph?

       a.   *y*-axis   c.   *z*-axis
       b.   *x*-axis   d.   any axis, it doesn't matter which one.

_____   9.   Calculate $4\pi r^2$ for the given value of *r*.
            $r = 14.8$

       a.   371.78   c.   2751.14
       b.   2752.54   d.   371.96

10. Calculate $\frac{1}{3}\pi r^2 h$ for the given values of r and h.

   $r = 3.2$
   $h = 13.75$

   a. 147.37   c. 92.15
   b. 147.45   d. 92.11

11. Calculate $\pi r s + \pi r^2$ for the given value of r and s.
   $r = 8.7$
   $s = 20.25$

   a. 790.86   c. 608.13
   b. 791.26   d. 607.83

12. How many yards is 6.5 mi? (1 mile $= 1760$ yards)

   a. 11440 yards   c. 10100 yards
   b. 9152 yards   d. 11640 yards

13. Convert 16 inches to centimetres. (1 inch $= 2.54$ cm)

   a. 32.512 cm   c. 6.3 cm
   b. 18.54 cm   d. 40.64 cm

14. Convert 500 m to kilometres.

   a. 5 km   c. 0.5 km
   b. 5000 km   d. 50 km

15. What is the sine of 47°?

   a. 1.072   c. 0.731
   b. 0.765   d. 0.682

16. A triangle has an angle of 15°, and the side opposite it is 28 cm long. What is the length of the hypotenuse?

   a. 108.18 cm   c. 28.99 cm
   b. 104.50 cm   d. 119.48 cm

17. What is the cosine of 77°?

   a. 1.008   c. 4.331
   b. 0.225   d. 0.974

18. A triangle has a hypotenuse of 39 cm. If one of the angles is 82°, what is the length of the adjacent side?

   a. 277.50 cm   c. 39.83 cm
   b. 5.43 cm   d. 38.62 cm

19. What is the tangent of 30°?

   a. 0.500   c. 0.866
   b. 0.534   d. 0.577

____ 20. A triangle has an angle of 17°. If the adjacent side is 28.0 cm long, what is the length of the opposite side?

    a. 10.0 cm   c. 8.6 cm

    b. 29.3 cm   d. 25.3 cm

____ 21. Gerard is paid $12.78/hour. He earns time and a half for hours worked over 40 each week. What will Gerard earn for 37 hours of work?

    a. $567.43   c. $709.29

    b. $472.86   d. $378.29

____ 22. $62800.00 is decreased by 30%. What is the new amount?

    a. $43960.00   c. $81651.00

    b. $18840.00   d. $81640.00

Short Answer: EACH QUESTION IS WORTH 2 MARKS. SHOW ALL WORK FOR FULL MARKS.

1. If you spend 2.5 hours a day on the internet, what percentage of the day are you on the internet?

2. How many degrees is 54% of a circle?

3. 200° is what percentage of a circle

4. Identify the independent variable in the situation below.

   John sells bottles of water for $1.50 each. (THE # OF BOTTLES SOLD or $ FOR EACH)

5. Identify the dependent variable in the situation below.

   300 new bacteria form every 20 seconds. (THE # OF BACTERIA or THE TIME.)

6. Calculate the value of x. Round to 1 decimal. (Hint: BEDMAS)

$$x = (5 - 23) - (15)^2 - 3 \div 23$$

.

7. Calculate the area of the figure below.

3.25 cm
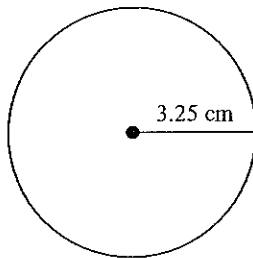
8. Calculate the area of the figure below.

18 in

12 in
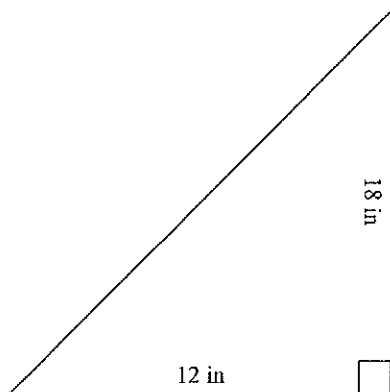
9. Convert 672 cm to inches. (1 inch = 2.54 cm)

.

10. Calculate the value of x. Round to 1 decimal place.

$$x^2 + 7^2 = 12^2$$

11. Use algebra to solve for a, if:

$b = 9$

$c = 3$

$d = 8$

$$a = \frac{bc}{d}$$

12. Gustav earns a 5% commission on all sales he makes at the car dealership. He sells 4 cars for $23799.00, $29748.75, $17849.25, and $33318.60. How much does Gustav make on these sales?

13. You earn a biweekly salary of $1800.00. Your deductions are 1.73% for EI, 4.95% for CPP, 11.7% for federal taxes, and 4.3% for provincial taxes. What is your net biweekly income?

14. Solve for the unknown side length.

```
       /|
      / |
5.2 cm  |
    /   |
   /____|
    7.2 cm
```
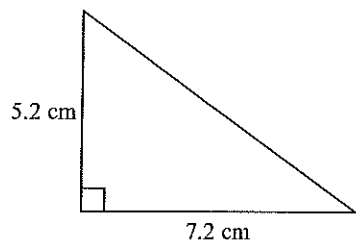
15. A staircase has stairs that are 20 cm wide and 11 cm high. What is the angle of elevation of the staircase?

Problem

1. Solve for x. Round to 2 decimal places.
$$\frac{89}{50} = \frac{x}{18}$$

2. Solve for x. Round to 2 decimal places.
$$3.75x + 2.4 = 6.9$$

3. Solve for x. Round to 2 decimal places.
   $$15x - 20 = 51$$

4. Solve for x. Round to 2 decimal places.
   $$\frac{x}{15} - 4 = 21$$

5. Sue ran 24 km in 108 minutes. How fast could she run 1 km?

6. The ratio of gas to oil in a 2-stroke engine is 8:3. If you need 3 L of gasoline, how much oil is needed?

7. Aidan is a roofing installer and he is writing a contract for a shingling a client's roof.

   Aidan would like to make $750.00 for the job. He estimates his costs to include $350.00 for the shingles and $11.50/hour for 3 workers. The job will take approximately 35 hours to complete.

   How much should Aidan charge to ensure that he will meet his earnings goal?

8. Will the contents of a 11 cm by 11 cm by 18 cm box fit into a 14 cm cube?

9. If the two shapes are similar, calculate the value of side length DC.
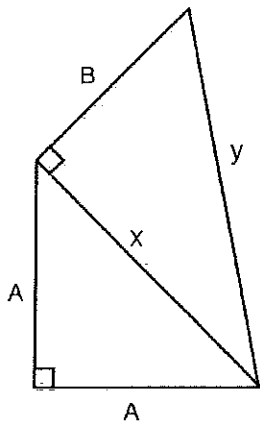
21.4 cm

A _____ B
      40°

60°
D _____ C

P ___11.9 cm___ Q
   120°

      140°
S _____ R
   13 cm
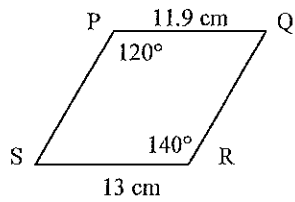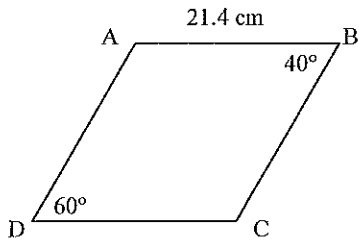
10. The diagram below has the following dimensions:
    A = 5 cm
    B = 4 cm

    Find the length of y.

B

      y

      x

A

A

11. Find the value of ∠A and ∠B given the following measures:

$x = 72$ cm

$y = 41$ cm

$z = 34$ cm