When completed, save on your computer and upload to MOODLE

Name _____

Phone _____

Foundations of Mathematics 10

SUBMISSION 8

Be sure to show your WORK for all circled questions

1. If f(x) = -3x – 1 , then f(2x+1) = ?

_____

2. Write an equation in slope intercept form of a line that is parallel to $y = \frac{3}{4}x + 5$ and passes through the point (3, 8).

_____

3. What is the slope of the line $5x – 4y + 8 = 0$?

_____

4. What is the X and Y intercept of the line $y = 5x–7$

X intercept is _____

Y intercept is _____

5. For what value of y is $2^y = \frac{1}{16}$? y =____

6. What is the value of k if $\sqrt[5]{m^{10}} = m^k$?

k = ___

7. Simplify $(64a^8)^{0.5}$ _____

8. Simplify $\left(\frac{m^8}{81}\right)^{-\frac{3}{4}}$ _____

9. Simplify 3a(2a – 1) – (4x – 3)

_____

10. Factor completely $3a^2 – 12a – 15$

_____

11. Is $3\sqrt{25}$ a rational number? _____

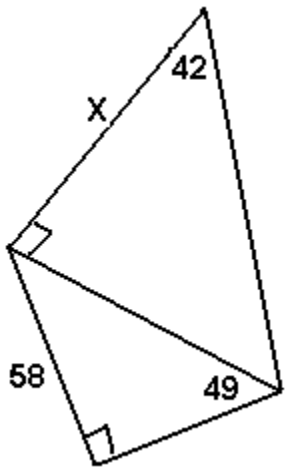
12. TRUE or FALSE A total monthly cost of using a cell phone consists of a fixed cost of $17.99 plus a charge of $0.18 per minute of use. The total monthly cost function is C(t) = 0.18t + 17.99.

_____

13. f(x) = 5 – 3x, then f(-1) = ? _____

14. Calculate the length of X (Round to 1 decimal place)

X = _____



15. A watermelon at Store A costs $1.27 per pound and costs $2.83 per kilogram at Store B. Which store has the higher price?

_____

16. A cube has a surface area of 54 m^2. What is the length of a diagonal on one of the surfaces? (Round to 1 decimal place)

_____

17. What is the radius of a soccer ball that has a surface area of 2463 cm^2? (Round to 1 decimal place)

_____

I verify that this Submission page has been completed by _____ without assistance.

Parent or Supervisor (Print Name) _____ (Signature) _____

BONUS QUESTIONS (Optional) – 5 marks
1 mark each. WORK MUST BE SHOWN (unless instructed otherwise!)
ATTACH EXTRA WORK PAGES IF SPACE BELOW IS INSUFFICIENT

Question 1 (Show work 'without' using a calculator)

Write the following in order from smallest to largest:

$\sqrt{35}$, $\left(\frac{1}{3}\right)^{-2}$, $2\left(9^{\frac{1}{2}}\right)$, $\sqrt[3]{27}$

ANSWER _____

Question 2

The lines that enclose a triangle can be represented by graphs of the equations y = 3, y + x= 7, and y = 2x+7. By graphing the equations, determine the area of the triangle.

ANSWER _____

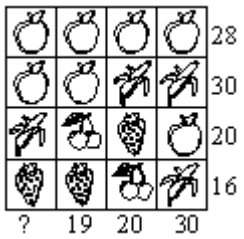
Question 3

If two secretaries can type two pages in two minutes, how many secretaries will it take to type 18 pages in six minutes?

ANSWER _____

Question 4 (No work required!)

In the drawing at right, the numbers beside each row and column are the total values of the symbols in each row and column. What should replace the questionmark?



ANSWER _____

Question 5

When musicians play together, they usually tune their instruments so that the note A above middle C has frequency 440 Hz, called the *concert pitch*. A formula for calculating the frequency, F hertz, of an note *n* semitones above the concert pitch is $F = 440(\sqrt[12]{2})^n$.
Middle C is 9 semitones below the concert pitch. What is the frequency of middle C? Round your answer to the nearest hertz.

ANSWER _____