Exercise 1   Name _____

Match each number with its type:

Place the best letter in the space before each number

____ 1. 1
____ 2. -2
____ 3. -4.3
____ 4. 0
____ 5. $\frac{4}{2}$
____ 6. $\frac{4}{5}$

a. Integer
b. Decimal or Fraction

Match each data set with its type:

Place all appropriate letters in the space before each data set.

____ 7. Number of previous surgeries for a disease
____ 8. Lengths of babies born to teenage mothers
____ 9. America's 100 Best Hospitals
____ 10. Grade point average
____ 11. Marital status (married or single)
____ 12. Number of passengers on an MBTA E Train
____ 13. Sizes of T-shirts: small, medium, large, extra large

a. Nominal
b. Ordinal
c. Dichotomous
d. Ranked
e. Discrete
f. Continuous

Solve by hand. Feel free to check your answers using a calculator.

14. $\frac{2}{5} + \frac{3}{10} =$

15. $\frac{3}{10} - \frac{4}{5} =$

16. $\frac{1}{12} * \frac{4}{7} =$

17. $\frac{1}{12} \div \frac{4}{7} =$

18. $(-4)(2)(83)(0.5) =$

19. $4 * \frac{1}{4} =$

Round:

Round the number **1234.8723** to the nearest...

_____ 20. Hundreds

_____ 21. Hundredths

_____ 22. Integer

Exercise 1   Name _____

Problem Solving:

Here is a formula for determining ideal body weight (IBW):

For males,

$$\text{IBW (lbs)} = 106 + (6 * \text{height in inches over 5 feet})$$

For females,

$$\text{IBW (lbs)} = 100 + (5 * \text{height in inches over 5 feet})$$

Recall that 1 inch = 2.54 cm and 1 foot = 12 inches.

23. Compute IBW for a woman who is 165 cm tall.

Convert to standard notation:

24. $1.46 \times 10^{-3} =$

25. $1.642 \times 10^2 =$

Simplify the following expressions:

26. $\left[\dfrac{27 - \frac{(8+3)^2}{2} - \frac{1}{3} + 1}{(2-4)^2} \right]^2 =$

27. $3xy + 2x^2y - xy + 4xy =$

28. $3xy - y^2 - 2x^2 + 4y - 3x^2 =$

29. $8^2 =$

30. $8^{-2} =$

31. $8^{\frac{1}{3}} =$

Exercise 1   Name _____

Solve these problems:

32. Suppose the following formula representes the relationship between cookies eaten (c), miles ridden on a bicycle (m), and weight gain or loss in pounds (y):

$$y = \frac{-50m + 100c}{3500}$$

Here is a summary of how many cookies you ate and how many miles you bicycled this week:

Day	Cookies	Miles	
Monday	3	3	
Tuesday	2	6	
Wednesday	6	0	(bad day...)
Thursday	1	4	
Friday	2	3	

How much weight did you gain or lose this week?

33. Here is the formula for body mass index:

$$\text{BMI} = \frac{w}{h^2}$$

where $w =$ weight in kilograms and $h =$ height in meters. What is the body mass index for someone who weighs 70 kg and is 1.6 meters tall?

34. What is the body mass index for someone who weighs 125 lbs and is 162 cm tall?

35. A glass of milk contains 8 grams of protein, 10 grams of fat, and 12 grams of carbohydrate. Each gram of protein contributes 4 calories. Each gram of fat contributes 9 calories. Each gram of carbohydrate contributes 4 calories. How many calories are there in the glass of milk?