REVIEW STATIONS UNIT 4 TEST TOMORROW!

Station 1

Use properties of exponents to write each of the following expressions in a simpler equivalent form. All Final answers should be expressed with positive exponents.

a. $(y^{10})(y^3)$

b. $(a^4)^3$

c. $(3x^2y^3)(4x^4y^7)$

d. $(2xy^{-5})^3$

e. $(2ab^0c)^2$

f. $\left(\frac{6x}{5}\right)^2$

g. $\frac{xy^5z}{y^{-2}z^3}$

h. $(8xy^{-6}z^4)^{-2}$

i. $\frac{(3x^3y)^4}{y}$

Classify these numbers

a. 12
b. 13
c. -10
d. $\sqrt{17}$
e. 15/3
f. π
g. 1/3
h. 0.99999999999…

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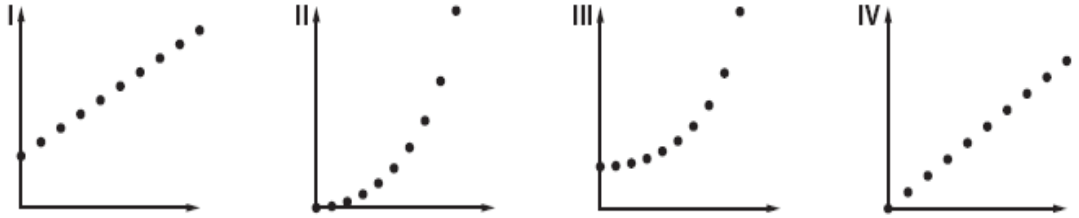
Station 2

1) Professor Dumbledore put 30,000 Gallons in a bank account for Harry Potter when he was born. The account earns 7.8 % annual interest at Gringots Wizarding Bank.

a. Make a table showing the value of that account each year for 6 years. Round your answer to the nearest dollar. *(Round to the nearest whole dollar)*

Year	0	1	2	3	4	5	6
Balance							

b. Which of the following scatterplots could be a plot of the above data for the first few years? Tell why.



Explanation:

c. Write a **Now/Next** and a ***y* = rule** that could be used to calculate the value of the account for any number of years.

d. What is the value of Harry's account after 18 years?

e. If Harry waits to begin Auror School until his account is over 400,000 Gallons, how old would he be?

2) Coffee, tea, and some soft drinks contain the drug caffeine. One hour after ingestion, 25% of the original amount of caffeine is used up. At the end of each hour after that, 25% of the amount at the beginning of the hour is used. Suppose a person consumes 100 milligrams of caffeine.

a. How much of that 100 milligrams (mg) will remain after 1, 2, and 3 hours? *Round to the nearest milligram*

1 hour: _____ 2 hours: _____ 3 hours: _____

b. Write a rule beginning "*y* = …" that can be used to calculate the amount of caffeine that will remain *x* hours after the initial dose.

c. How much caffeine would remain after three and a half hours? *Round to the nearest milligram*

d. After how many hours would the amount of caffeine be less than 1 milligram.

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Station 3

Y= Rule	Next/Now Rule	Initial Value	Base of Exponent	Growth or Decay?
$y = 2(3)^x$				
	Next= Now (1.14) starting @ 10,000			
		20	0.89	
$y= 3(0.60)^x$				

Multiple Choice:

1. Charles plays basketball for his school. He scored 8 points on Monday, and he doubled his score each day thereafter. How many points did he score on Thursday?

   a. 224 points b. 32 points c. 56 points d. 64 points

2. Suppose a population of 1500 crickets doubles in size every 6 months. How many crickets will there be after 3.5 years?

   a. 4,000 crickets b. 1723 crickets c. 192000 crickets d. 100,000 crickets

3. Suppose the population of a town is 700 in 2007 and is growing 4% each year. Predict the population in 2019.

   a. 129,600 people b. 4,323 people c. 6,327 people d. 1,120 people

4. Megan put $2400 in a savings account earning 2% interest compounded annually 7 years ago. How much money is in her account now?

   a. $2,757 b. $307,200 c. $17,136 d. $2,736

5. A boat costs $18,000 and decreases in value by 8% per year. How much will the boat be worth after 5 years?
   a. $9,153 b. $11,863 c. $8,237 d. $155

6. The rate of depreciation in the graph of the function $y= 20(0.97)^x$ is
   a. 2.5% b. 20% c. 97.5% d. 3%

7. The initial value in the graph of the function $y= 20(0.97)^x$ is
   a. 2.5 b. 20 c. 97.5 d. 3