

REVIEW STATIONS UNIT 4 TEST TOMORROW!

Station 1

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. $(x^{-7})(x^2)$

b. $(a^6)^3$

c. $(7x^3y^{10})(2xy^4)$

d. $(7x^2y^{-6})^2$

e. $\frac{42x^{21}y^0}{6x^{10}y}$

f. $(3tws^{-1})^{-2}$

② Rewrite each expression into simplest radical form.

a. $x^{1/4}$

b. $\sqrt{100xy^3z^4}$

c. $\sqrt[3]{24}$

d. $\sqrt[3]{686x^3y^4z^6}$

e. $\sqrt[4]{243}$

f. $\sqrt[4]{1296x^4y^4z^8}$

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Station 2

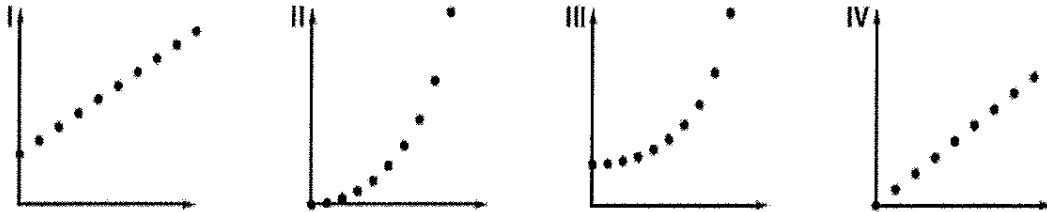
①

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.

