

Name: _____ Algebra 10 Unit 6 Test Review

Review for the UNIT 6 Test on Friday October 11th

DO NOW ~ Tuesday 10/8

Simplify the following expression.

$$4y^2 \cdot 4y^1$$

$$16y^3$$



Classwork

Simplify the following expression.

$$4x^4y^2 \cdot 2y^4$$

$$8x^4y^6$$

$$\frac{3a^{-2}b^{-2}}{4a^2}$$

$$\frac{3}{4}a^{-4}b^{-2}$$

$$\frac{3}{4a^4b^2}$$

$$(2k^2)^4$$

$$(2k^2)(2k^2)(2k^2)(2k^2)$$

$$16k^8$$

$$\frac{2b^3 \cdot 2b^3}{(b^{-3})^4}$$

$$\frac{4b^6}{1b^{-12}} = 4b^{18}$$

A town has a population of 7000 and grows at 4% every year. What will be the population after 13 years, to the nearest whole number?

$$y = a \cdot b^x$$

$$y = 7000(1 + .04)^{13}$$

$$y = 11,655$$

$$11655.51$$

To earn your full participation point for the Do Now be sure to have completed all of the following by the time is up:

- 1) Be in your seat
- 2) Take out your calculator
- 3) Have last night's homework out
- 4) Complete the do now



DO NOW ~ Thursday 10/10

Simplify the following expression.

$$\frac{3n^{-2}}{3n^{-4}}$$

$$1n^2$$



Classwork

Simplify the following expression.

$$6x^2y^3 \cdot 3y^4$$

$$\frac{3}{m^4n^3} \cdot 3m^4$$

$$\left(\frac{1}{v^9}\right) \cdot v^{-9} \cdot (v^{-3})^3$$

$$\frac{(x^{-4})^2}{2x^3 \cdot x^{-2}} \cdot \frac{1 \cdot x^{-8}}{2 \cdot x}$$

3600 dollars is placed in an account with an annual interest rate of 9%. How much will be in the account after 25 years, to the nearest cent?

$$y = a \cdot b^x$$

$$y = 3600(1 + .09)^{25}$$

$$y = 31,043.09$$

Mrs. Ferreri's Station ~ Exponent Rules (Foldable)

Simplify the following expressions.

1) $3r^{-3} \cdot 2r^{-3}$

2) $4x^{-1} \cdot 2x^3$

3) $2ba^3 \cdot 4a^{-2}b^4$

4) $2xy^2 \cdot x^3y^3$

5) $\frac{2p^0}{2p^{-1}}$

6) $\frac{3x^4}{x^3}$

7) $\frac{mn^3}{m^3n^{-1}}$

8) $\frac{2x^3y^{-2}}{2x^{-4}y^{-2}}$

9) $(2x^3)^2 \cdot 2x^3$

10) $(2x^4)^3 x^2$

11) $\frac{2a^4}{(2a^2)^4}$

12) $\frac{2k^2 \cdot 2k^2}{k^4}$

Computer Station ~ No Computers today...Exponent Review

Simplify the following expressions by EXPANDING them first.

1) $(n^{-1})^2$

2) $(4r)^4$

3) $(2x^{-3})^3$

4) $(3a^2)^4$

5) $(n^2)^2$

6) $(3b)^3$

7) $(4v)^0$

8) $(3x)^2$

9) $(4r^2)^3$

10) $(4x^2)^4$

Mrs. Kennedy's Station ~ Exponential Growth and Decay Word Problems

Show all of your work.

5000 dollars is placed in an account with an annual interest rate of 8.75%. How much will be in the account after 18 years, *to the nearest cent*?

A new car is purchased for 17300 dollars. The value of the car depreciates at 9.25% per year. What will the value of the car be, *to the nearest cent*, after 15 years?

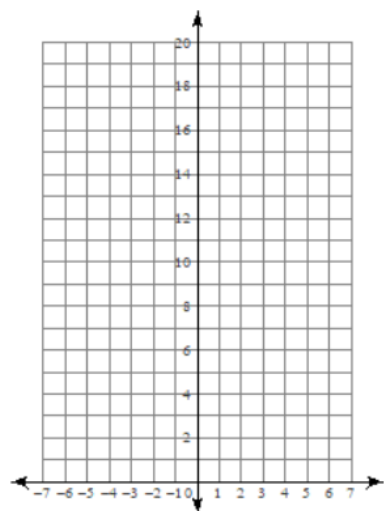
7700 dollars is placed in an account with an annual interest rate of 8%. How much will be in the account after 22 years, *to the nearest cent*?

A house was purchased at \$150,500. The value of the house increases 5% each year. What is the value of the house after 10 years, *to the nearest cent*?

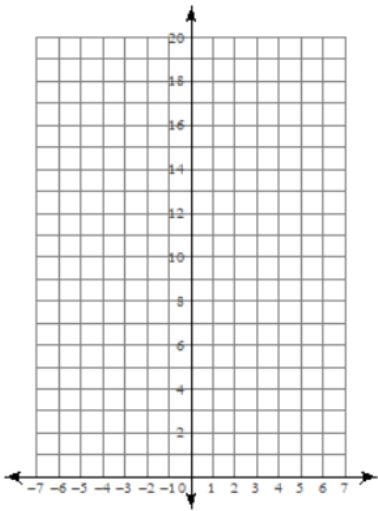
Independent Station ~ Graphing Exponential Functions

Graph the following exponential functions using the table and label method.

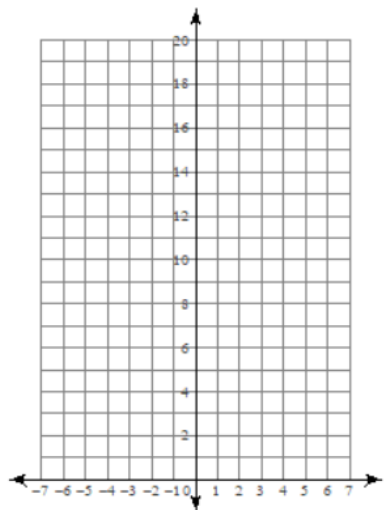
$y = 4 \cdot 2^x$



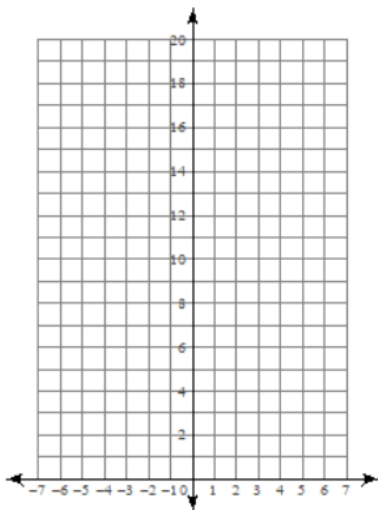
$y = 3 \cdot 2^x$



$y = 5 \cdot \left(\frac{1}{2}\right)^x$



$y = 2 \cdot 2^x$



Homework is to FINISH the two stations you worked on today. This packet will be collected and graded.