

HW: Review Key

Tuesday, January 12, 2016
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Integrated
Quiz Review 10.1-10.3

Name Key !!

Simplify with positive exponents

1. $\frac{-27x^3(-x^7)}{16x^4} = \frac{27x}{16x^4}$

$= \frac{27x^4}{16}$

2. $\left(\frac{2}{3r^2s^3z^6}\right)^2 = \frac{4}{3^2r^4s^6z^{12}}$

$= \frac{4}{9r^4s^6z^{12}}$

3. $\left(\frac{3}{2}d^2f^4\right)^4 \left(\frac{-4d^5f}{3}\right)^3 = \left(\frac{81}{16}d^8f^{16}\right) \left(\frac{-64d^{15}f^3}{27}\right) \left(\frac{2x^3y^2}{-x^2y^5}\right)^{-2} = \left(\frac{-x^2y^2}{2x^3y^2}\right)^2 = \frac{(-1)^2x^4y^4}{4x^6y^4} = \frac{y^6}{4x^2}$

$= -12d^{23}f^{19}$

$= \frac{y^6}{4x^2}$

5. $\frac{(3x^{-2}y^3)(5xy^{-8})}{(x^{-3})^4y^{-2}} = \frac{15x^{-1}y^{-5}}{x^{-12}y^{-2}} = \frac{15y^2x^{11}}{x^1y^5}$

$= \frac{15x^{11}}{y^3}$

6. $\frac{-20(m^2v)(-v)^3}{5(-v)^2(-m^4)} = \frac{-4v^2}{m^2}$

7. $f(x) = 4(3)^x$ initial value = 4 or (0, 4) Growth/Decay (circle one) Growth ← b/c constant mult. (base) is 3.

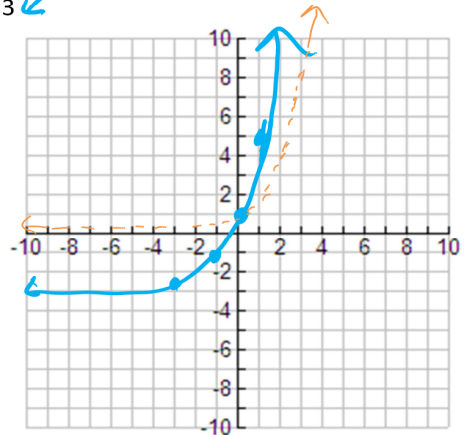
8. The transformation from the parent function $f(x) = 4^x$ to $g(x) = 4^{x-7} + 6$ is described as: Shift up 6 and Shift rt. 7 (vertical) (horizontal)

9. Make a table and graph the parent AND transformed function (on the same table and same graph): (4 pts)

Parent function: $y = 2^x$

Transformed function: $y = 2^{x+2} - 3$

$(x-2)$	x	f(x)	$(y-3)$
-3	1	$\frac{1}{2}$	-2.5
-2	0	1	-2
-1	1	2	-1
0	2	4	1
1	3	8	5



10. Write in scientific notation:

A) 0.0000032

$$3.2 \times 10^{-6}$$

B) 3353000

$$3.353 \times 10^6$$

C) 3500000×2000000

$$3.5 \times 10^6 \times 2.0 \times 10^7$$

$$(3.5 \times 2.0) \times (10^6 \cdot 10^7)$$

$$7.0 \times 10^{12}$$

D) $55000000 \div 1100$

$$\frac{5.5 \times 10^7}{1.1 \times 10^3}$$

$$5.0 \times 10^4$$

