Math 1 – Sprig 2020
Review #6

Graphing exponential equations

This can be a bit tricky because you need to follow the order of operations, PEMDAS. Exponents come before multiplication. So if you have to evaluate $3(4)^2$ you have to do 4^2 first, then multiply by 3. It would look like this:

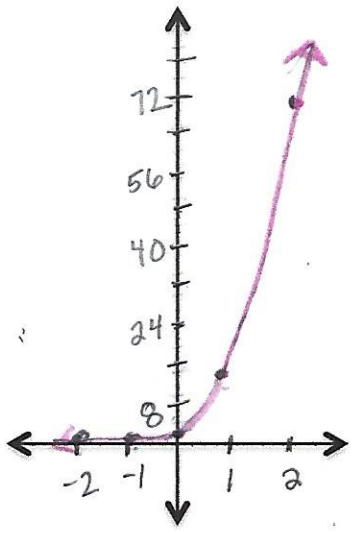
$3(4)^2$
$3(16)$
48

When graphing an <u>exponential equation</u>, the <u>x is the exponent</u> and you are evaluating 5 mini problems.

Another thing to remember is that negative exponents give us numbers that are fractions or decimals between 0 and 1. It DOES NOT make the number negative. Try this on your calculator. $5^{(-2)} = 0.04$

Graph $y = 2(6)^x$ Use a table to organize your information. The numbers closest to zero are used because they will give us the smallest answers for our graph. Exponential numbers grow really big fast and really small fast.

x	y
-2	$2(6)^{-2} \rightarrow 2 \cdot \frac{1}{6^2} \rightarrow 2 \cdot \frac{1}{36} \rightarrow \frac{2}{36} \rightarrow 0.0\overline{5}$
-1	$2(6)^{-1} \rightarrow 2 \cdot \frac{1}{6^1} \rightarrow 2 \cdot \frac{1}{6} \rightarrow \frac{2}{6} \rightarrow .\overline{3}$
0	$2(6)^0 \rightarrow 2 \cdot 6^0 \rightarrow 2 \cdot 1 \rightarrow 2$
1	$2(6)^1 \rightarrow 2 \cdot 6^1 \rightarrow 2 \cdot 6 \rightarrow 12$
2	$2(6)^2 \rightarrow 2 \cdot 6^2 \rightarrow 2 \cdot 36 \rightarrow 72$



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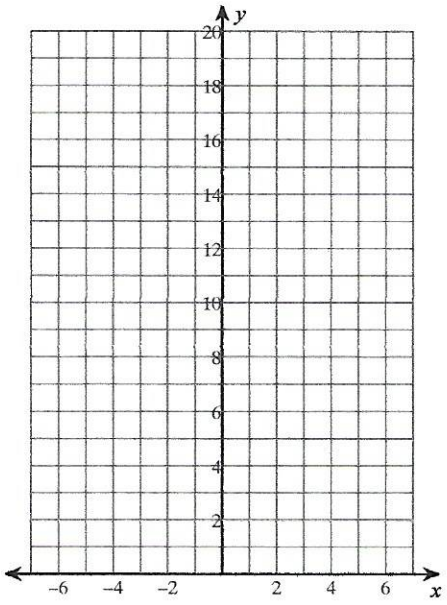
Review #6 Graphing Exponential Equations

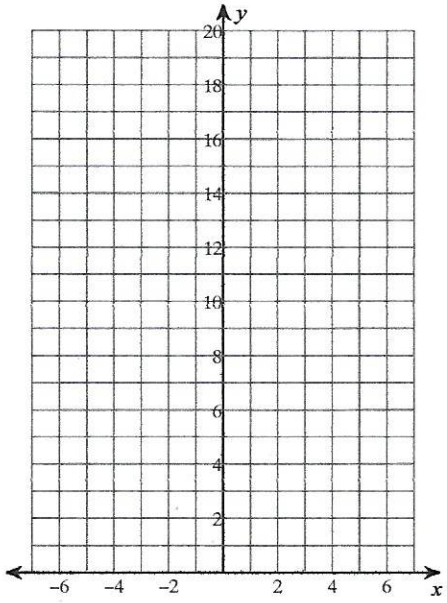
Date_____ Period____

Sketch the graph of each function. Draw a table and show your work.

1) $y = 3 \cdot 2^x$



2) $y = \frac{1}{2} \cdot 6^x$



3) $y = 2 \cdot 3^x$