**Name:**

**Module 2 Quiz Review**

(Logarithmic Functions 2.1 – 2.3)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| $$log\_{4}600$$ | $$log\_{8}8$$ | $$log\_{2}0.05$$ | $$log\_{3}1$$ | $$log\_{2}8$$ |
| **(A)** | **(B)** | **(C)** | **(D)** | **(E)** |

1. Above you are given five different logarithmic expressions. Put these expressions in numerical order from smallest to largest by writing the *letter* that corresponds with each expression on the lines below.

Rank here:

\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

Smallest Largest

**Part II**:

*Expand each logarithmic expression*

|  |  |  |  |
| --- | --- | --- | --- |
|  2. | $$log\_{7}3x$$ |  |  |
| 3. | $$log\_{3}10y$$ |  |  |
| 4. | $$log\_{c}15$$ |  |  |
| 5. | $$log\_{7}\frac{2}{z}$$ |  |  |
| 6. | $$log\_{7}\frac{z}{2}$$ |  |  |

*Write an equivalent exponential expression*

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_ 7. | $$(x^{4})^{5}∙x^{3}$$ |  |  |
| \_\_\_\_\_\_ 8. | $$(x^{-5})^{2}$$ |  |  |
| \_\_\_\_\_\_ 9. | $$\frac{x^{7}}{(x^{-5})^{3}}$$ |  |  |
| \_\_\_\_\_\_ 10. | $$(x^{8})^{2}∙x^{3}$$ |  |  |
| \_\_\_\_\_\_ 11. | $$(2x^{6})^{3}$$ |  |  |

**Part III**: *Short Answer*

12. $log\_{5}\sqrt[6]{125}$ = ? 13. Expand: $log\_{6}\left(\frac{3c}{11}\right)^{4}$