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Unit 8 Practice Test #2

You will be required to complete a short thatquiz as part of you test grade. It will consist of 10 questions. You will record your grade on the test. There will be both a technology portion and non-technology portion of this test.

Simplify the following as far as they can go.

1. $3^2 \cdot 3^3$

2. $p^m \cdot p^n$

3. $(x^3)(x^{x+2})$

4. $(3x^3)(2xy^4)$

5. $(-3x^m z)(-2y^3 z^n)(x^m y^2)$

The area, A, of a triangle is given by $A = \frac{1}{2}bh$, where b is the base and h is the height. Find the area of the triangle given the values of b and h.

6. $b = 6x, h = 3x$

7. $h = 10v^3, b = 8v^2$

Simplify the following as far as they can go.

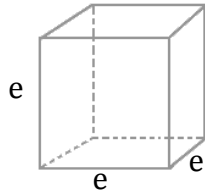
8. $(4c^2)^3$

9. $(5h^4)^2(-3g^2h)$

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Find the volume of the cube for each edge length, e.



10. $e = 4x^3$

11. $e = 2x^2y^4$

Simplify as far as possible.

12. $\frac{x^{18}}{x^{12}}$

13. $\frac{(2x^2)^3(2x^5)}{4x^3}$

14. $\frac{4 \cdot (2x^5)^0}{(350y^2)^0}$

15. $\frac{10p^2q^4r^{-1}}{5p^4qr^{-3}}$

Plot the following points on *Geogebra* and find the exponential equation which best fits the points. Use “fitgrowth<list of points>” to help. Use that exponential equation to answer the questions.

X	-3	-2	-1	0	1	2	3
Y	.008	.04	.2	1	5	25	125

16. The exponential equation which fits these points is $f(x) =$ _____

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Answer the following questions using this equation.

17. What would the value of "y" be if $x=5$? _____

18. What value of x would give you a y -value of 1,953,125? _____

Tell whether the function represents exponential growth or decay.

19. $y = (.2)^x$ _____

20. $y = 4 \cdot \left(\frac{2}{3}\right)^x$ _____

21. $y = .5 \cdot (8)^x$ _____

Evaluate the following. Express each result in scientific notation.

22. $\frac{6 \times 10^4}{3 \times 10^2}$

23. $\frac{1.5 \times 10^7}{3 \times 10^5}$

24. $(4 \times 10^4)(5 \times 10^{-2})$

25. The speed of light is 3×10^8 meters/second. If the sun is 7.5×10^{11} meters from earth, how many seconds does it take light to reach the earth. Express your answer in scientific notation.

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