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Unit 8 Practice Test

Simplify the following as far as they can go.

1. $2^3 \cdot 2^4$

2. $w^x \cdot w^y$

3. $(x^2)(x^{m+1})$

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

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

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. $b = 5x, h = 2x$

7. $h = 12a^3, b = 10a^2$

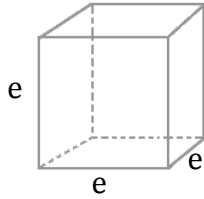
Simplify the following as far as they can go.

8. $(8c^5)^2$

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

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

10. $e = 5y^4$

11. $e = 2x^3y^5$

Simplify as far as possible.

12. $\frac{x^{20}}{x^5}$

13. $\frac{(3x^2)^2(2x^3)}{6x^5}$

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

15. $\frac{8p^3q^4r^{-1}}{2p^4q^3r^{-5}}$

Tell whether the function represents exponential growth or decay.

16. $y = 2^x$ _____

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

18. $y = \frac{1}{2} \cdot (6)^x$ _____

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Evaluate the following. Express each result in scientific notation.

19. $\frac{4 \times 10^5}{2 \times 10^3}$

20. $\frac{1.4 \times 10^8}{2 \times 10^6}$

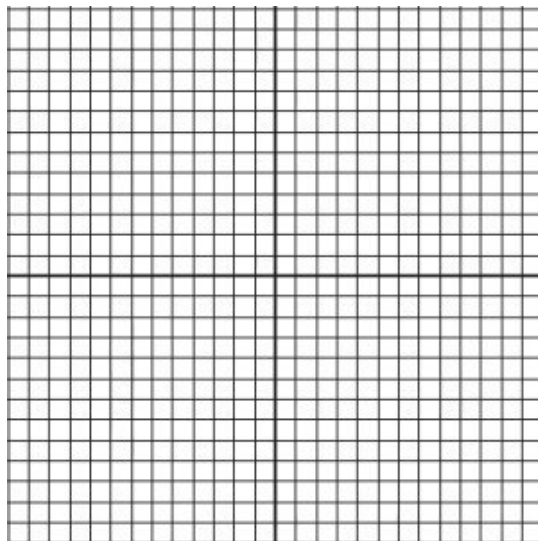
22. $(3 \times 10^3)(4 \times 10^{-5})$

23. The speed of light is 3×10^8 meters/second. If the sun is 1.5×10^{11} meters from earth, how many seconds does it take light to reach the earth. Express your answer in scientific notation and standard notation.

24. Consider the following exponential function. $f(x) = 3^x$

Fill in the chart with the appropriate values for $f(x)$. Graph the function on the coordinate plane.

x	f(x)
-2	
-1	
0	
1	
2	



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