

TEST REVIEW

Name

Simplify each expression. Use positive exponents.

1.
$$m^3 n^{-6} p^0$$
 M^3

3.
$$\frac{a^4b^{-3}}{ab^{-2}}$$

5.
$$\left(\frac{u^2v^{-2}}{u^0v^3}\right)^2 \qquad \bigvee^{4} \bigvee^{-4-4}$$

2.
$$(0.25^4)(0.25^{-5})$$
 ($a = 3$)

4.
$$(x^{-2}y^{-4}x^3)^{-2}$$
 $\chi^{4} y^{8} \chi^{-6} \chi^{-2} \gamma^{8} \chi^{2}$

6.
$$h^{-4}k^{3}(-h^{2}k^{-1})^{3}$$

$$h^{-4}K^{3} \circ (-1)^{3}h^{6}K^{-3}$$

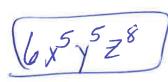
$$-1h^{2}$$

Simplify the following using exponent rules:

10.
$$(3x^3y^5z^2)(2x^2z^6)$$

11.
$$(3x^3y^5z^2)^3$$

12.
$$3(2x^3y^2z^5)^3$$



13.
$$-3(2x^4y^5)^3(3x^2y^4z^6)^2$$
 14. $\frac{2x^3y^5z^7}{6x^5y^2z^3}$

14.
$$\frac{2x^3y^5z^7}{6x^5v^2z^3}$$

15.
$$\frac{(2x^3y^4z)^3}{16x^{12}y^6z}$$

-3.8x12y15,9x4y8Z12 723 (-216x16x23Z12)

$$\left[\frac{1\sqrt{3}z^4}{3x^2}\right]$$

16.
$$\frac{-15x^4y^{-2}z^{-4}}{3x^{-5}y^2z^{-3}} = \frac{-5x^9}{y^4 z^{-1}}$$
19.
$$\frac{6^7}{4^7} = \frac{6^7}{4^7} = \frac{19}{4^7} = \frac{6^7}{4^7} = \frac{19}{4^7} = \frac{19}$$

$$\frac{U^{4}x^{12}y^{9}z^{1}}{3^{2}x^{2}y^{7}z^{2}} \underbrace{\frac{U^{4}x^{12}y^{9}z^{1}}{2^{7}y^{12}}}_{18. \left(\frac{x}{x^{2}}\right)^{0}}$$

18.
$$\left(\frac{x}{x^2}\right)^0$$

20.
$$y^{-2} \cdot y^2$$

- 21. The value of your new cell phone is \$500 and depreciates 40% per year.
- Write an explicit function representing the value of the phone given its age in years.
- What is the phone worth in 4 years?

- You have two choices of how to invest \$5000 over 7 years. 22.
- Bank 1 offers an account that earns 3.5% interest, compounded annually. $A = 5000(1 + .035)^{107}$)

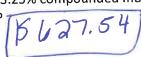
 Which is the better option and why?

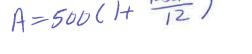
 Bank 2 offers an account that earns 3.25% compounded monthly.

 Which is the better option and why?

 Bank 2 offers an account that earns 3.25% compounded monthly.

 A = 5000(1 + .033) 12(7)





- 23. Suppose you invest \$6000 in an account with 4% interest compounded annually. How much money will you 6000 (1+,04) 5 (\$7299,92 have in 5 years?
- 24. Suppose you invest \$8000 in an account with 3.5% interest compounded monthly. How much will you have in 4 8000(1+,035)48 (B 9200,32, years.
- 25. Currently, 1,000 students attend Heritage Middle. The school board estimates that the student population will grow by 5% per year for the next several years. How many students will be in the school in 4 years?
- 26. Find the slope of a line that passes through (2,5) and (-3,4).

$$\frac{4-5}{-3-2} = \boxed{\frac{1}{5}}$$

- 27. Find the slope of 3x 4y = 12 -4y = -3x+12 $(y = \frac{3}{4}x 3)$
- 28. Simplify $(x^{\frac{1}{6}})^{18}$
- 29. Write the equation of a line that passes through (-6,5) and is perpendicular to y = 3x-7.

$$1m=\frac{1}{3}$$
 $5=\frac{1}{3}(-b)+b$
 $7=\frac{1}{3}x+3$
 $5=a+b$
 $3=b$