

UNIT 8 Practice Test Answers

$$1) 9^2 = \boxed{81} \quad 2) 10^5 = \boxed{100,000} \quad 3) X^5 \cdot X^8 = \boxed{X^{13}}$$

$$4) 8^3 \cdot 8^4 = \boxed{8^7} \quad 5) \begin{array}{l} X^9 \cdot X^0 \\ X^9 \cdot 1 = \end{array} \boxed{X^9} \quad 6) \begin{array}{l} (-3y)(y^3)(8y^2) \\ = \end{array} \boxed{-24y^6}$$

$$7) (-4x^4y^2)(-3x^5y) = \boxed{12x^9y^3} \quad 8) (y^3)^4 = \boxed{y^{12}}$$

$$9) (X^5)^2 = \boxed{X^{10}} \quad 10) (-3a^4b^3c^2)^4 = \boxed{81a^{16}b^{12}c^8}$$

$$11) \begin{array}{l} (2a^2b^3)^4 (-5a^3b^2)^3 \\ 16a^8b^{12} (-125a^9b^6) \\ = \end{array} \boxed{-2000a^{17}b^{18}} \quad 12) \begin{array}{l} 4X^{-7}y^5 = X^6y^5 = \boxed{\frac{1}{3xy^2}} \\ 3 \sqrt[3]{2x^{-6}y^7} \quad 3X^7y^{12} \end{array}$$

$$13) \left(\frac{(-2)^3}{(-3)^{-2}} \right)^5 = \left(-8 \cdot (-3)^2 \right)^5 = (-8 \cdot 9)^5 = (-72)^5 = \boxed{-1,934,917,632}$$

$$14) \left(\frac{3x^4y^3}{\frac{1}{2}xy^2} \right)^3 = \left(\frac{3x^4y^3}{2} \right)^3 = \boxed{\frac{27x^{12}y^9}{8}}$$

$$15) (5 \times 10^2)(7 \times 10^7) = 35 \times 10^9 = \boxed{3.5 \times 10^{10}}$$

$$16) (6 \times 10^3)^{-5} = (6000)^{-5} = \frac{1}{(6000)^5} = \boxed{1.286 \times 10^{-19}}$$

$$17) .000527 = \boxed{5.27 \times 10^{-4}} \quad 18) (84 \times 10^5) \div (4 \times 10^2)$$

$$= \frac{84 \times 10^5}{4 \times 10^2} = 21 \times 10^3$$

$$= \boxed{2.1 \times 10^4}$$

$$19) \begin{array}{l} (7 \times 10^8)(6000) \\ = 700,000,000(6000) \\ = 4,200,000,000,000 \\ = \end{array} \boxed{4.2 \times 10^{12}}$$

20) Decreasing in value

$$A = p(1-r)^t$$

$$A = 23,000(1-.08)^6$$

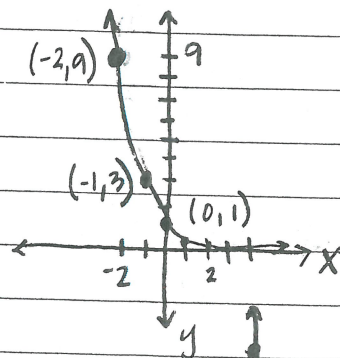
$$A = 23,000(.92)^6$$

$$A = 23,000(.60635) = \boxed{\$13,946}$$

Round to
nearest
dollar

21) $y = \left(\frac{1}{3}\right)^x$

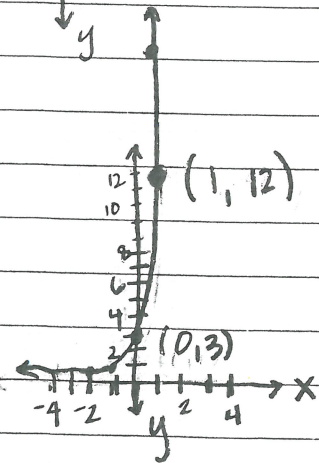
x	-2	-1	0	1	2	3
y	9	3	1	.3	.1	.04
	$\frac{1}{3^{-2}}$	$\frac{1}{3^{-1}}$	$\frac{1}{3^0}$	$\frac{1}{3^1}$	$\frac{1}{3^2}$	$\frac{1}{3^3}$



22) $y = 3(4)^x$

x	-2	-1	0	1	2	3
y	.19	.75	3	12	48	192

$$\frac{3(4)^{-2}}{\frac{3}{16}} \quad \frac{3(4)^{-1}}{\frac{3}{4}} \quad \frac{3(4)^0}{3(1)} \quad \frac{3(4)^1}{3(4)} \quad \frac{3(4)^2}{3(16)} \quad \frac{3(4)^3}{3(16)}$$



23) $A = p(1+r)^t$

$$A = 27,500(1+.05)^7$$

$$A = 27,500(1.05)^7$$

$$A = 27,500(1.4071)$$

$$A = \boxed{\$38,695}$$

24) $A = p(1+r)^t$

$$2400 = p(1+.045)^3$$

$$2400 = p(1.045)^3$$

$$2400 = p(1.141166125)$$

$$1.141166125$$

$$1.141166125$$

$$\boxed{\$2103.00} = p$$

25) Point (3, 4)

x y

A ✓
 $y = .5(2)^x$
 $4 = .5(2)^3$
 $4 = .5(8)$

B
 $y = 2(.5)^x$
 $4 = 2(.5)^3$
 $4 = .25$

C
 $y = (2.5)^x$
 $4 = (1)^3$
 $4 = 1$

A