

8.1 Practice A (1.e1 & 1.e2 NAQc)

Date _____ Period _____

NAQ.c.1 -- no calculator allowed

Evaluate a numeric exponential power. Clearly show work. Circle your answer.

1) $2^4 =$

$2 \cdot 2 \cdot 2 \cdot 2 = \boxed{16}$

2) $2^5 =$

$2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = \boxed{32}$

3) $3^4 =$

$3 \cdot 3 \cdot 3 \cdot 3 = \boxed{81}$

4) $5^3 =$

$5 \cdot 5 \cdot 5 = \boxed{125}$

5) $10^3 =$

$10 \cdot 10 \cdot 10 = \boxed{1,000}$

6) $3^3 =$

$3 \cdot 3 \cdot 3 = \boxed{27}$

7) $2^6 =$

$2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = \boxed{64}$

8) $10^6 =$

$10 \cdot 10 \cdot 10 \cdot 10 \cdot 10 \cdot 10 =$

$\boxed{1,000,000}$

9) $3^2 =$

$3 \cdot 3 = \boxed{9}$

10) $2^3 =$

$2 \cdot 2 \cdot 2 = \boxed{8}$

Simplify. -- no calculator allowed

Evaluate a numeric exponential power WITH negative numbers. Clearly show work. Circle your answer.

11) $(-2)^4$

$(-2) \cdot (-2) \cdot (-2) \cdot (-2) =$

$\boxed{16}$

12) $(-2)^5$

$(-2) \cdot (-2) \cdot (-2) \cdot (-2) \cdot (-2) =$

$\boxed{-32}$

13) $(-3)^4$

$(-3) (-3) (-3) (-3) = \boxed{81}$

14) $(-2)^6$

$-2 \cdot -2 \cdot -2 \cdot -2 \cdot -2 \cdot -2 = \boxed{64}$

USE Calculator to evaluate these numeric exponential power. NO work needed.

15) 6^4

$6^4 = \boxed{1,296}$

16) 3^5

$3^5 = \boxed{243}$

17) 10^3

$10^3 = \boxed{1,000}$

18) 5^6

$5^6 = \boxed{15,625}$

19) $(-5)^4$

$(-5)^4 = \boxed{625}$

20) $(-8)^4$

$(-8)^4 = \boxed{4,096}$

21) $(-3)^7$

$(-3)^7 = \boxed{-2,187}$

22) $(-2)^8$

$(-2)^8 = \boxed{256}$

8.1 Practice B (NAQ.c 1&2)

Date _____ Period _____

NAQ.c.1 -- no calculator allowed

Evaluate a numeric exponential power. Clearly show work. Circle your answer.

1) 10^5

$10 * 10 * 10 * 10 * 10 = 100,000$

2) 5^3

$5 * 5 * 5 = 125$

3) 2^6

$2 * 2 * 2 * 2 * 2 * 2 = 64$

4) 3^4

$3 * 3 * 3 * 3 = 81$

Simplify. -- no calculator allowed

Evaluate a numeric exponential power WITH negative numbers. Clearly show work. Circle your answer.

5) $(-2)^3$

$(-2) (-2) (-2) = -8$

Must use ()'s or $-2 \cdot -2 \cdot -2$

6) $(-2)^4$

$(-2) (-2) (-2) (-2) = 16$

7) $(-5)^4$

$(-5) (-5) (-5) (-5) = 625$

8) $(-5)^3$

$(-5) (-5) (-5) = -125$

USE Calculator to evaluate these numeric exponential power. NO work needed.

9) 4^6

$4 \wedge 6$
 $4,096$

10) 5^6

$5 \wedge 6$
 $15,625$

11) $(-2)^{10}$

$(-2) \wedge 10$
 $1,024$

12) $(-5)^7$

$(-5) \wedge 7$
 $-78,125$

NAQ.c.2

Evaluate numeric expressions with positive integer exponents, using the product property. Clearly show work. Simplify the exponent expression; then evaluate. Circle your answer.

13) $5 \cdot 5^2$

$$5^{1+2} = 5^3 = 5 \cdot 5 \cdot 5 = 125$$

14) $2^4 \cdot 2^2$

$$2^{4+2} = 2^6 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 64$$

15) $3 \cdot 3^2 = 3^{1+2} = 3^3 = 3 \cdot 3 \cdot 3 = 27$

16) $2 \cdot 2^1 \cdot 2^4 = 2^{1+1+4} = 2^6 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 64$

Evaluate NEGATIVE numeric powers with positive integer exponents, using the product property. Clearly show work. Simplify the exponent expression; then evaluate. Circle answer.

17) $(-3)^2 \cdot (-3)^1$

$$(-3)^{2+1} = (-3)^3 = (-3) \cdot (-3) \cdot (-3) = -27$$

18) $-3 \cdot (-3)^3$

$$(-3)^{1+3} = (-3)^4 = (-3) \cdot (-3) \cdot (-3) \cdot (-3) = 81$$

19) $(-2)^4 \cdot (-2)^2$

$$(-2)^{4+2} = (-2)^6 =$$

$$(-2)^6 =$$

20) $(-5)^2 \cdot (-5)^1$

$$(-5)^{2+1} = (-5)^3 = -5 \cdot -5 \cdot -5 = -125$$

$$(-5)^3 =$$

Simplify. Show work.

21) $x^4 \cdot x$

$$x^{4+1} = x^5$$

22) $x^5 x^3$

$$x^{5+3} = x^8$$

23) xx^6x^4

$$x^{1+6+4} = x^{11}$$

24) $xx^3x^4x^2$

$$x^{1+3+4+2} = x^{10}$$