

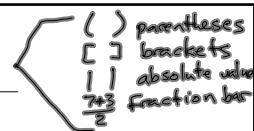
Algebra I

4-1

Exponents

Orders of Operations-

- 1) Grouping Symbols
- 2) Exponents
- 3) Multiply or Divide, left to right
- 4) Add or Subtract, left to right.



$$24 \div 6 \cdot 2$$

8 or 2

Contrast

$$x^4 = x \cdot x \cdot x \cdot x$$

$$4x = 4 \cdot x \text{ or } x + x + x + x$$

Oral Exercises (pg 143). Do on your own.

Write each in exponential form.

- | | | | | |
|---|--|--|---|--|
| 1) $x \cdot x \cdot x \cdot x$
x^4 | 2) $a \cdot a \cdot a \cdot a \cdot a$
a^5 | 3) $n \cdot y \cdot y \cdot n$
$n^2 y^2$ | 4) $c \cdot c \cdot y$
$c^2 y$ | 5) $2 \cdot p \cdot 5 \cdot p \cdot$
$10 p^2$ |
| 6) $a \cdot 3 \cdot a \cdot a \cdot 2 \cdot a$
$6 a^4$ | 7) $(-r)(-r)$
r^2 | 8) $-r \cdot r \cdot$
$-r^2$ | 9) $(-2) \cdot b \cdot (-4) \cdot b \cdot$
$8 b^2$ | |
| 10) $2 \cdot k \cdot k \cdot (-4) \cdot k$
$-8 k^3$ | 11) $a \cdot a \cdot a \cdot 3 \cdot b \cdot b \cdot b$
$3 a^3 b^3$ | 12) $a \cdot a \cdot b \cdot 5 \cdot b \cdot b \cdot a \cdot$
$5 a^3 b^3$ | | |

Simplify

13) 2^5 32	14) $5 \cdot 2^3$ 40	15) -2^2 -4
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Handwritten notes: "10 of 32", "1000 of 40", "4 or -4", " $[-2-2]$ ", " $(-2)^2$ ".

Find the area of each rectangle. (pg 143)

*1) $3y$ $5y$

$$A = lw$$

$$A = (3y)(5y)$$

$$= 15y^2 \text{ units}^2$$

Write each expression in exponential form.

17) $r(-4) \cdot s \cdot s$

$$-4rs^2$$

Simplify.

29 a) $7 + 3^3$

$$7 + 27$$

$$34$$

b) $(7 + 3)^3$

$$(10)^3$$

$$1000$$

Evaluate if $a=3$ and $b=-2$.

45) $\frac{a^3 + 2b^3}{a + 2b}$

$$\frac{(3)^3 + 2(-2)^3}{(3) + 2(-2)} = \frac{27 + 2(-8)}{3 + (-4)}$$

$$= \frac{27 + (-16)}{-1} = \frac{11}{-1} = \boxed{-11}$$

Assignment:

Pg. 143

1 - 23 all,

24 - 46 even.