

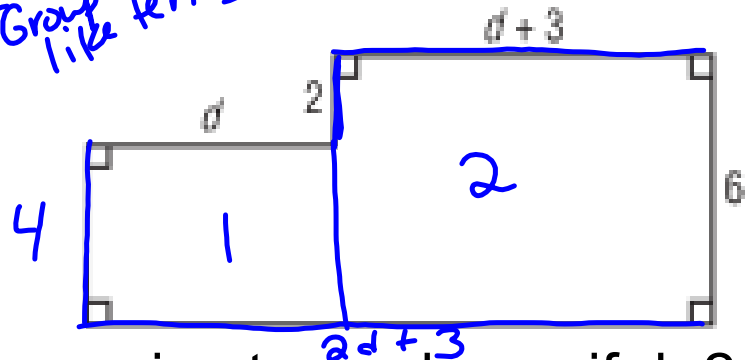
# Warm-Up January 16, 2018

Find the polynomial that represents

A) perimeter

B) Area

*Group like terms*



Solve for the perimeter and area if  $d=2$

$$P: d+2+d+3+6+2d+3+4$$

$$2d + 2d + 2 + 3 + 6 + 3 + 4$$

$$4d + 18$$

$$4(2) + 18 \leftarrow$$

$$8 + 18$$

$$26$$

$$A_1 = bh$$

$$= 4(d)$$

$$= 4d$$

$$A_2 = bh$$

$$= 6(d+3)$$

$$= 6d + 18$$

$$10d + 18$$

$$10(2) + 18$$

$$20 + 18$$

$$38$$

*Area*

# **Unit 2**

## **Exam Review**

### **Powers and Exponents**

## Powers

$$2^3$$

Base

2

Exponent

3

Repeated multiplication

$2 \times 2 \times 2$

Evaluate

8

A

$$(-2)^4$$

B

$$-2^4$$

## Evaluate

$$\begin{array}{l} -2 \times -2 \times -2 \\ \text{a. } (-2)^3 \\ -8 \end{array}$$

$$\begin{array}{l} -(2 \times 2 \times 2 \times 2) \\ \text{B. } -(2)^4 \\ -16 \end{array}$$

$$\begin{array}{l} -(-3 \times -3 \times -3 \times -3) \\ \text{C. } -(-3)^4 \\ -81 \end{array}$$

$$\begin{array}{l} -(3 \times 3 \times 3) \\ \text{D. } -3^3 \\ -27 \end{array}$$

$$\begin{array}{l} \text{E. } -(-3)^3 \\ 27 \end{array} \quad \begin{array}{l} -(-3 \times -3 \times -3) \end{array}$$

## Zero Exponent

Any base with a zero exponent  
equals 1

$$(2)^0$$

|

$$(-2)^0$$

|

$$-(2)^0$$

-|

$$-(-2)^0$$

-|

# Order of Operations

## BEDMAS

$$8 \times 5^2 + 2^3 - (5^3 - 3^2)$$

$$8 \times 25 + 8 - (125 - 9)$$

$$8 \times 25 + 8 - 116$$

$$200 + 8 - 116$$

$$92$$

$$A. \quad [2 \times (-1)^3 - 6]^2$$

$$\begin{aligned} & [2 \times -1 - 6]^2 \\ & (-2 - 6)^2 \\ & (-8)^2 = 64 \end{aligned}$$

BEDMAS

$$B. \quad (-3)^2 - 2 + (-3)^4 - 1^5 + 1^0$$

$$\begin{aligned} & 9 - 2 + 81 - 1 + 1 \\ & 88 \end{aligned}$$



Evaluate

$$10^3 = 10 \times 10 \times 10 = 1000$$

*tells the number of zeros!*

$$10^6 = 1\,000\,000$$

$$10^0 = 1$$

$$10^1 = 10$$

Write using a power of 10.

37 241

Expanded

$$30\,000 + 7\,000 + 200 + 40 + 1$$

form

Power of

$$3 \times 10^4 + 7 \times 10^3 + 2 \times 10^2 + 4 \times 10^1 + 1 \times 10^0$$

10

# EXPONENT RULES!

## EXPONENT LAW 1

Powers with the same base being multiplied

**ADD THE EXPONENTS!!!**

$$a) 5^2 \times 5^3 =$$

$$b) (-2)^6 \times (-2)^3 =$$

**Simplify**  
(single power)

$$5^5$$

$$(-2)^9$$

**Evaluate**

$$3125$$

$$-512$$

Powers with the same base being divided

**SUBTRACT THE EXPONENTS!!!**

$$a) 8^9 \div 8^5 =$$

$$b) \frac{(-6)^{10}}{(-6)^4}$$

$$8^4$$

$$(-6)^6$$

**Evaluate**

$$4096$$

$$46656$$

Use exponent laws

Answer

## EXPONENT LAW 2

WHEN A POWER IS RAISED TO AN EXPONENT

MULTIPLY THE EXPONENTS!!!

Simplify

$$(3^4)^2 = 3^8$$

1)  $3^2 \times 3^2$

$3^4$

**SIMPLIFY**

Use exponent laws

2)  $(-5)^2 \times (-5)^4$

$(-5)^6$

3.  $\frac{5^8}{5^2}$

$5^6$

4.  $\frac{(-2)^3}{(-2)^0}$

$(-2)^3$

5.  $(4^8)^3$

$4^{24}$

# SIMPLIFY THEN EVALUATE!!!

↳ Use exponent laws

$$\frac{3^6 \times 3^7}{3^8} + (2^3 \times 2)^2 - (-1)^0$$

$$\frac{3^{13}}{3^8} + (2^4)^2 - (-1)^0$$

$$3^5 + 2^8 - (-1)^0$$

$$243 + 256 - 1$$
$$498$$

## Simplify then Evaluate

↳ Use exponent laws

$$(2^{12} \div 2^{10})^2 \times (4^8 \div 4^7) + 3^2$$

$$(2^2)^2 \times (4^1) + 3^2$$

$$2^4 \times 4 + 3^2$$

$$16 \times 4 + 9$$

$$64 + 9$$

$$73$$

\*

Simplify

A.  $(3^3 \times 3^3)^2 - (2^5 \div 2^3)^3 \times (4^3 \times 4^5)^0$

$$(3^6)^2 - (2^2)^3 \times (4^8)^0$$

$$3^{12} - 2^6 \times 4^0$$

## Homework

1. Exam Review questions 1-28 ...show work

↳ 14-28 ↗

**DO NOT MARK**

**SHEETS**



## Extra Practice

Use Cumulative Review Chapters 1-3

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