Warm-Up January 18, 2017

BEDMAS

NO CALCULATOR

a. $(4+3^2) \times 5 - 2$

$(4+9) \times 5 - 2$

$13 \times 5 - 2$

$65 - 2$

63

b. $\dfrac{17 - 5 \times 2\,(4^2+6)}{4^2 - 3^2}$

$\dfrac{17 - 5 \times 2\,(16+6)}{16 - 9}$

$\dfrac{17 - 5 \times 2 \times 22}{7}$

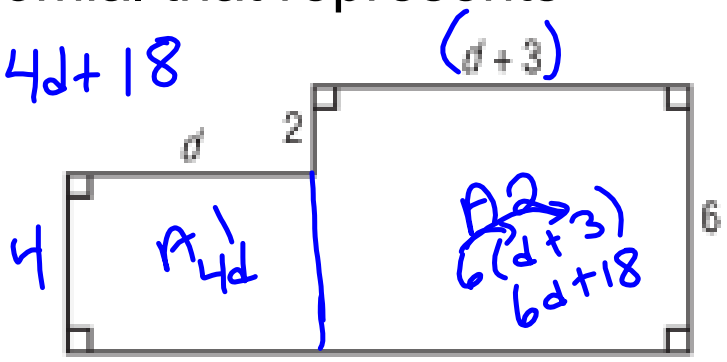
$\dfrac{17 - 10 \times 22}{7}$

$\dfrac{17 - 220}{7}$ $\quad \dfrac{-203}{7} = -29$

Find the polynomial that represents

A) perimeter $4d+18$

B) Area



Solve for the perimeter and area if d=2

$P = 4d+18$
$= 4(2)+18$
$8+18$
$= 26$

$A1 + A2$
$4d + 6d + 18$
$10d + 18$
$10(2) + 18$
$20 + 18$
38

Unit 2
Exam Review

Powers and Exponents

Powers

3^4

Base 3

Exponent 4

Repeated multiplication $3 \times 3 \times 3 \times 3$

Evaluate [standard form] 81

Evaluate

$(-3)^3$

a. $(-2)^3$ ← odd

-8

B. $-(2)^4$

-16

C. $-(-3)^4$ ← even

-81

D. -3^3

-27

E. $-(-3)^3$

27

Zero Exponent Any base with a zero exponent equals 1

$(2)^0$ $(-2)^0$ $-(2)^0$ $-(-2)^0$

1 1 -1 -1

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

$[2 \times -1 - 6]^2$

$(-2 - 6)^2$

$(-8)^2 = 64$

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

$9 - 2 + 81 - 1 + 1$

$7 + 81 - 1 + 1$

$88 - 1 + 1$

88

Evaluate

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

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

$10^0 = 1$

$10^1 = 10$

Write using a power of 10.

37 241

Expanded form

$30\,000 + 7000 + 200 + 40 + 1$

Power of 10

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

EXPONENT RULES!

EXPONENT LAW 1
Powers with the same base being multiplied
ADD THE EXPONENTS!!!

Use exponent laws → Answer

	Simplify	Evaluate
a) $5^2 \times 5^3 =$	$5^{2+3} = 5^5$	3125
b) $(-2)^6 \times (-2)^3 =$	$(-2)^9$	-512

Powers with the same base being divided
SUBTRACT THE EXPONENTS!!!

	Simplify	Evaluate
a) $8^9 \div 8^5 =$	8^4	625
b) $\frac{(-6)^{10}}{(-6)^4}$	$(-6)^6$	46656

EXPONENT LAW 2

WHEN A POWER IS RAISED TO AN EXPONENT

MULTIPLY THE EXPONENTS!!!

$\times$

$(3^4)^2 =$

$3^4 \times 3^4 = 3^8$

Simplify

3^8

SIMPLIFY

Use exponent laws

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

3^4

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!!!

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

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

$$\boxed{3^5 + 2^8 - (-1)^0}$$ Simplified

$$243 + 256 - 1$$

$$498$$ Evaluate

Simplify then Evaluate

↳ Use exponent laws

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

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

$$\boxed{2^4 \times 4 + 3^2}$$ ← simplified

$$16 \times 4 + 9$$

$$64 + 9$$

$$73$$

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 DO NOT MARK SHEETS

1. Exam Review questions 1-28 ...show work when possible. 14-28

2. Continue to work on Polynomial Review it must be completed by Tuesday, as well

Extra Practice

Use Cumulative Review Chapters 1-3

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