Warm-Up October 21, 2016

A. $(-4)^2 - 3(-9 \div 3)^2$

$16 - 3(-3)^2$

$16 - 3(9)$

$16 - 27$

-11

B. Express as a single power. then Evaluate

1. $3^9 \times 3^6$

3^{9+6}

3^{15} ← single power

14 348 907 Evaluate

2. $(-4)^9 \div (-4)^5$

$(-4)^{9-5}$

$(-4)^4$

256

3. $(-2)^6 \times (-2)^3 \div (-2)^2 \times (-2)^8$

$(-2)^{6+3-2+8}$

$(-2)^{15}$ ← Single Power

-32768 ← Evaluate

Use exponent laws when they apply!

Simplify THEN Evaluate

BEDMAS

$$\frac{10^4 \times 10^3}{10^2}$$

10^{4+3}

$\frac{10^7}{10^2}$

10^{7-2}

10^5 Simplified single power

100 000 Evaluated

$(-4)^3 \div (-4)^2 \times (-4)^{10}$

$(-4)^{3-2+10}$

$(-4)^{11}$

$-4\ 194\ 304$

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

$3^{2+1} + 2^{2+4}$

$3^3 + 2^6$ simplified

$27 + 64$

91 Evaluated

$6\,(6^6 \div 6^2) - 6^4$

$6^1(6^{6-2}) - 6^4$

$6^1(6^4) - 6^4$

$6^{1+4} - 6^4$

$6^5 - 6^4$ simplified

$7776 - 1296$

6480

Simplify [use the laws of exponents when multiply and divide].

$5^3 \times 5^2$

5^{3+2}

5^5

$(-3)^8 \div (-3)^4$

$(-3)^{8-4}$

$(-3)^4$

$1^2 \times 1^4 - 1^3$

$1^{2+4} - 1^3$

$1^6 - 1^3$

$$\frac{4^2 \times 4^4}{4^2 \times 4^1}$$

$$\frac{4^{2+4}}{4^{2+1}}$$

$$\frac{4^6}{4^3}$$

4^3

Simplify

Look for any law to follow!!!!

$$(-3)^6 \div (-3)^5 - (-3)^5 \div (-3)^5$$

$(-3)^{6-5} - (-3)^{5-5}$

$= \boxed{(-3)^1 - (-3)^0}$ simplified

$$\frac{(-2)^6}{(-2)^3 \times (-2)}$$

$\frac{(-2)^6}{(-2)^{3+1}}$

$\frac{(-2)^6}{(-2)^4}$

$(-2)^2$

Simplify, if possible, THEN evaluate

$5^2 + 5^3$ simplified

$25 + 125$

150

$5^2 \times 5^3$

5^{2+3}

5^5

3125

Simplify, if possible, then Evaluate

$3^3 \times 3^4 - 3^5 \times 3^1$

$3^{3+4} - 3^{5+1}$

$3^7 - 3^6$

$2187 - 729$

1458

$$\frac{(-2)^6 \times (-2)^2}{(-2)^3 \times (-2)^0}$$

$\frac{(-2)^{6+2}}{(-2)^3}$

$\frac{(-2)^8}{(-2)^3}$

$(-2)^5$

-32

c) $[(-2)^4 \times (-2)^3] - [(-3)^4 \div (-3)^3]$

$(-2)^7 - (-3)^1$

$-128 - -3$

-125

Homework
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Simplify then evaluate!!