Curriculum Outcome

N1: Demonstrate an understanding of rational numbers by: comparing and ordering rational numbers; solving problems that involve arithmetic operations on rational numbers.

Student Friendly:
“BEDMAS with fractions and decimals"

Grade 9 Warm Up

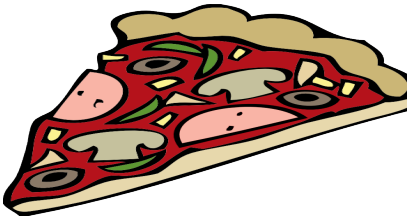
1) Determine the missing number in each division statement.

a) $\_\_\_\_ \div 7.25 = 2.1$ b) $\_\_\_\_ \times -0.7 = 0.896$

c) $\frac{91}{42} \div \square = \frac{13}{7}$

Word Problems

1) A pizza cost $25.98. If 7 people are sharing the cost, what was the cost for each person?



Grade 9 Warm Up

$15 \div 3 = 5$

$\square = 3 \times 5$

$3 \times 4 = 12$

$\square = 12 \div 4$

1) Determine the missing number in each division statement.

a) $\square \div 7.25 = 2.1$

$\square = 7.25 \times 2.1$

$\square = 15.225$

b) $\square \times -0.7 = 0.896$

$\square = \frac{0.896}{-0.7}$

$\square = -1.28$

c) $\frac{91}{42} \div \square = \frac{13}{7}$

$\square = \frac{91}{42} \div \frac{13}{7}$

$\square = \frac{\cancel{91}^{7}}{\cancel{42}_{6}} \times \frac{\cancel{7}^{1}}{\cancel{13}_{1}}$

$\square = \frac{7}{6} \times \frac{1}{1}$

$\square = \frac{7}{6}$

$15 \div 3 = 5$

$\square = 15 \div 5$

Word Problems

1) A pizza cost $25.98. If 7 people are sharing the cost, what was the cost for each person?

$25.98 \div 7$

$= \$3.71$

Calculator Use

$(2)^4 = 2 \times 2 \times 2 \times 2$

$= 16$

Use x^y or y^x or ^ for exponents on calculators

$(3)^2$

$= (3)(3)$

$= 9$

$(-3)^2$

$= (-3)(-3)$

$= 9$

$(-2)^3$

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

(+) (−)

$= -8$

$(-5)^3 = -125$

$x^{\square}$ x^{y} y^{x} $\wedge$ $x^{\wedge}$

x^{2}

$$\left(\frac{4}{5}\right)^2 = \left(\frac{4}{5}\right)\times\left(\frac{4}{5}\right) = \frac{16}{25}$$

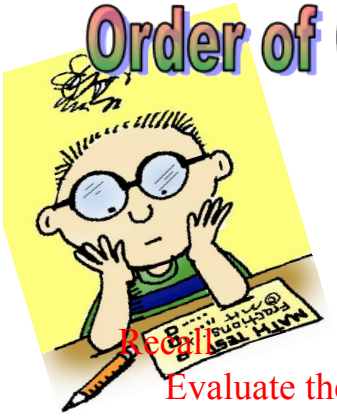
$$\frac{4^2}{5^2}$$

$$\left(\frac{-2}{3}\right)^3$$

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

Section 3.6

Order of Operations with Rational Numbers



Remember from operations

"BEDMAS".....order of

In the order that they appear

~~BEDMAS~~

Recall:

Evaluate the following

1) $(-5) - 3[18 \div (-3)]^2$

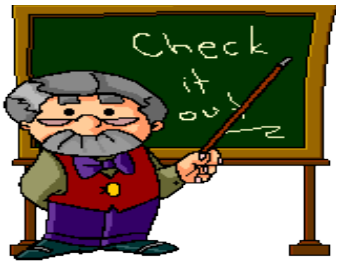
$= (-5) - 3[\ (-6)\ ]^2$

$= (-5) - 3\ (36)$

$= (-5) - 108$

$= -113$

Do we need more practice?



1) $3 - [(-5) + 1]^3$

$3 - [(-4)\ ]^3$

$3 + [+64]$

$= 67$

2) $[(-3+5)^2 + 6(-2) + 7(3)]^2$

$[(2)^2 + 6(-2) + 7(3)]^2$

$= [4 + 6(-2) + 7(3)]^2$

$= [4 + (-12) + 21]^2$

$= [13]^2$

$= 169$

Using the Order of Operations with Decimals

Evaluate the following:

It is no difference with decimals....follow ~~B~~EDMAS

With decimals you may need to round your final answers

1) $(-1.3) + 0.8 \div (-0.2) \times 5$

$(-1.3) + (-4) \times 5$

$(-1.3) + (-20)$

$= -21.3$

2) $(-3.6) - 1.7 \div [0.6 - (-0.8)]^2$

$= (-3.6) - 1.7 \div [1.4]^2$

$= (-3.6) - 1.7 \div [1.96]$

$= (-3.6) - 0.86$

$= -4.46$

$$\left[(-3+5)^2 + 6(-2) + 7(3)\right]^2$$

Fractions

$$\left(\frac{2}{5}\right)^2 \div \left(\frac{2}{3}+\frac{4}{5}\right)$$

$$\left(\frac{2}{5}\right)^2 \div \left(\frac{10}{15}+\frac{12}{15}\right)$$

$$\left(\frac{2}{5}\right)^2 \div \left(\frac{22}{15}\right)$$

$$\frac{4}{25} \div \left(\frac{22}{15}\right)$$

$$\frac{\cancel{4}^{\,2}}{\cancel{25}_{\,5}} \times \frac{\cancel{15}^{\,3}}{\cancel{22}_{\,11}}$$

$$\frac{2}{5} \times \frac{3}{11}$$

$$= \frac{6}{55}$$

Class / Homework

Worksheet

All Question (Show work)

EVIEW to BEDMAS

Date_____ P

Evaluate each expression. (SHOW WORK)

1) $(-2)+(3-5)\times(-9)$

2) $3\left(9-\frac{20}{-10}\right)$

3) $(-8)\times(-9)+3-(-10)$

4) $6^2-(-4)\times 9$

5) $(15\times 2)\div(2-8-4)$

6) $(-2)\times(15\times 3-9)\div(-6)$

7) $3+(-8)^2+4\div 4$

8) $(6^2-(-2))((-3)\div(+1))$

9) $10\div 5-(4+(-3)^3)$

10) $(-3-4)\times 3\times 6\div 6$

11) $(-11\times 2--4)\div -6--3$

12) $(-6+3)^2-5\times -1$