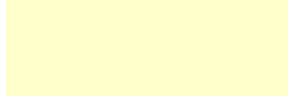


Multiplying and Dividing Real Numbers

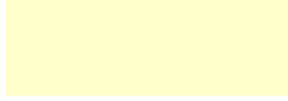
 Guide Notes

MULTIPLYING REAL NUMBERS

- The product of two real numbers with the same sign is positive.



- The product of two real numbers with different signs is negative.



Sample Problem 1: Find the product.

a. $-4(6)$

b. $(-21)(-3)$

c. $11(-7)$

Sample Problem 2: Simplify each expression.

a. $3(-4x) - 15x$

b. $3s(-8r)$

c. $(8x)(-9y) - 12xy$

Sample Problem 3: Evaluate each expression if $n = \frac{2}{5}$.

a. $n^2 \left(-\frac{5}{8}\right)$

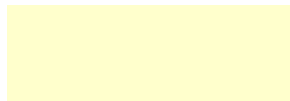
b. $5n$

c. $15n + 6$

Sample Problem 4: An average person need to drink 3 liters of water a day. How many liters of water an average person drinks in a month?

DIVISION RULE

To divide a number a by a nonzero number b , multiply a by the reciprocal of b .



The result is the quotient of a and b .

Multiplying and Dividing Real Numbers

 Guide Notes

Sample Problem 5: Find the quotient.

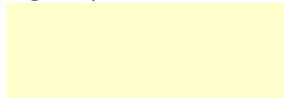
a. $-66 \div 11$

b. $\frac{48}{-3}$

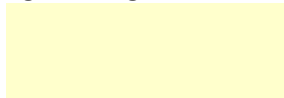
c. $\frac{1}{3/4}$

THE SIGN OF A QUOTIENT

- The quotient of two numbers with the same sign is positive



- The quotient of two numbers with opposite signs is negative.



Sample Problem 6: Simplify each expression.

a. $\frac{24 - 8x}{4}$

b. $\frac{32x - 8}{4}$

c. $\frac{45 + 10x}{5}$

Sample Problem 7: Evaluate each expression if $a = -3$ and $b = -2$.

a. $\frac{2a}{a - b}$

b. $\frac{4 - b}{a^2}$

c. $\frac{a}{3 - b}$

Sample Problem 8: Russia has a land area of **17,098,242 km²** Russia is approximately seven times bigger than Algeria in terms of land area. What is the land area of Algeria?