7.1 Review worksheet

Wednesday, November 09, 2011
7:00 PM

St Thomas Aquinas High School *Mr. N. Cune*

7.1 Multiplying and Dividing Monomials

Warm Up:

"**Monomial**" = *one term* expression (ex: 2x, -3m, $14y^2$, $6x^3y$)

"**Product**" = *multiplication* ; "**Quotient**" = *division*

Perform the calculations:

a) $(x)(x) = x^2$ b) $(x)(y) = xy$ c) $(3)(-4) = -12$ d) $(-3)(-4) = 12$ e) $(3)(4) = 12$ f) $(-0.2)(4) = -0.8$

1. Determine each product.

a) $(-3x)(-2x) = 6x^2$ **b)** $(x)(4x) = 4x^2$ **c)** $(-4x)(2x) = -8x^2$ **d)** $(3y)(7y) = 21y^2$

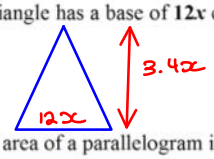
3. Determine each quotient.

a) $\frac{8x^2}{4x} = 2x$ **b)** $\frac{6xy}{3y} = 2x$ c) $\frac{16x^2}{-8x} = -2x$ d) $\frac{25x^6yz^4}{5x^2yz} = 5x^4z^3$

4. Determine the quotient of each pair of monomials.

a) $\frac{15xy}{3y} = 5x$ **b)** $\frac{-9mn}{-3mn} = 3$ **c)** $\frac{12xy}{8x} = \frac{3}{2}y$ **d)** $\frac{-14.2m^2}{2m} = -7.1m$

5. A triangle has a base of **12***x* cm and a height of **3.4***x* cm. What is the **area** of the triangle?



$A = \frac{\text{base} \times \text{height}}{2} = \frac{(12x)(3.4x)}{2} = 20.4x^2$

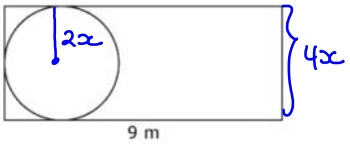
6. The area of a parallelogram is **25.6***x*² m². Determine the height if the base is **8***x* m.

$\text{Height} = \frac{\text{Area}}{\text{Base}} = \frac{25.6x^2}{8x} = 3.2x \text{ m}$

7. Marko's rectangular lawn has an area of **36***x* m². The length of the lawn is 9 m. Marko wants to add a circular cement patio. What is the area of the largest circular patio that he could add?

$\text{width} = \frac{36x}{9} = 4x$

$A = \pi r^2 = \pi(2x)^2 = \pi(4x^2) = 4\pi x^2$



$\frac{x \cdot x}{x}$

8. Four students were asked to determine the quotient of the expression $\frac{16x^2}{4x}$. Which student showed a correct partial solution?

A Amir: $(16 \div 4) + (x^2 \div x)$ **B** Brendan: $(16 \div 4) \div (x^2 \div x)$

C Christina: $(16 - 4) \div (x^2 - x)$ **D** Dana: $(16 \div 4) \times (x^2 \div x)$

$16 \div 4 = 4$

$x^2 \div x^1 = x$

9. The product $(-3.7x)(5.1y)$, in simplified form, is $-18.87xy$

10. The quotient $(10x^2) \div (4x)$, in simplified decimal form, is $2.5x$

$4x$

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