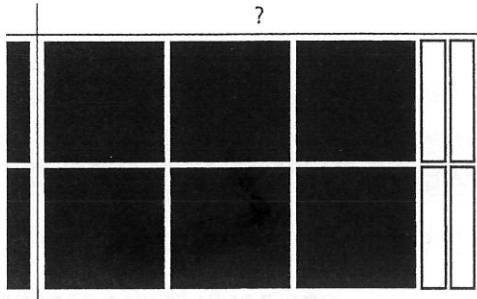


Check Your Understanding

5. Sketch the solution for the unknown value. What is the unknown value?



6. Use a model to divide the expression.

$$(-8x^2 + 12x) \div (-4x)$$

7. Divide.

a) $\frac{-36y^2 + 10.8y}{6y}$

b) $\frac{4s^2 - 8st + 12s}{-8s}$

c) $-(8.1d^2 - 7.2d + 3.6) \div (9)$

d) $(-y^2 - yz - y) \div (-y)$

8. A load of topsoil has a volume of 7.5 m^3 . You wish to spread the topsoil over an area measuring $(30x + 22.5) \text{ m}^2$. Create an expression for the depth of the topsoil.

9. A triangle has a base of $(3x + 6) \text{ cm}$ and a height of $24x \text{ mm}$. Write an expression you can use to calculate the area of the triangle. What is its area?

10. The formula for the volume of a cylinder is $V = \pi r^2 h$. The volume of a cylinder is $510.5t^2 \text{ cm}^3$, and its height is 6.5 cm . Calculate the approximate radius of the cylinder.

11. The surface area of a cylinder is represented by the formula $SA = A_1 + A_2$, where $A_1 = 2\pi r^2$ and $A_2 = 2\pi rh$. The surface area of a cylinder is $90\pi \text{ m}^2$ and $A_1 = 50\pi \text{ m}^2$. Answer the following, showing your work.

a) What is A_2 ? Do not change π to an approximate value.

b) What is the radius of the cylinder?

c) What is the height of the cylinder?

7.3 Dividing Polynomials by Monomials

MathLinks 9, pages 272–277

Key Ideas Review

Use the following terms to complete #1 to 3. Terms can be used more than once.

dividend divisor numerical coefficients product quotient variables

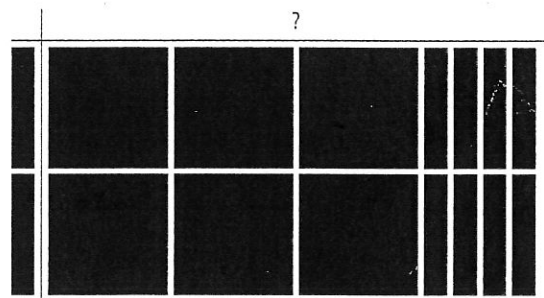
1. To divide a polynomial by a monomial algebraically, you can divide the _____ and apply the exponent rules to the _____. To check your work, multiply the _____ by the _____. If the _____ equals the _____, your answer is correct.

2. Consider the model. Then, complete the sentences below.

In the model, the six x^2 -tiles and eight x -tiles represent the _____.

If the divisor is $2x$, the unknown side is the _____.

To find the quotient, count the number of tiles along the top row of the _____.



3. The expression represented by the model in #2 is _____. The quotient is _____.
4. In the boxes, write the correct values for the following equation and its check.

Divide:

$$\frac{4x^2 - 6x}{2x} = \frac{\boxed{}}{2x} - \frac{\boxed{}}{2x}$$

$$= 2x - 3$$

Check by Multiplication:

$$(2x)(2x - 3) = (2x)(\boxed{}) - (2x)(\boxed{})$$

$$= 4x^2 - 6x$$