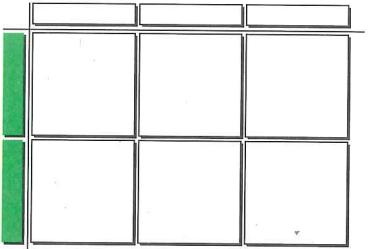


Chapter 7 Practice Test

For #1 to #6, select the best answer.

1. Which monomial multiplication statement is represented by the algebra tiles?

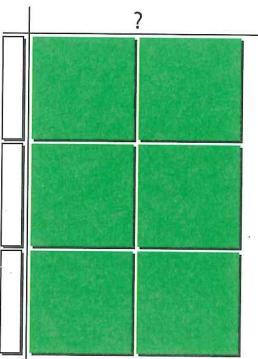


A $(3x)(-2x) = -6x^2$
 B $(2x)(-3x) = -6x^2$
 C $(2x)(3x) = 6x^2$
 D $(-2x)(-3x) = 6x^2$

2. What is the product of $3y$ and $2.7y$?

A $0.9y$
 B $8.1y$
 C $0.9y^2$
 D $8.1y^2$

3. Which monomial division statement is represented by the algebra tiles?



A $\frac{-6x^2}{-3x} = -2x$
 B $\frac{-6x^2}{-3x} = 2x$
 C $\frac{6x^2}{-3x} = -2x$
 D $\frac{6x^2}{-3x} = 2x$

4. Which is equivalent to $-27q^2 \div 9q$?

A $3q^2$
 B $3q$
 C $-3q$
 D $-3q^2$

5. Which is equivalent to $\left(\frac{2}{3}x\right)(-3x - 6)$?

A $-2x^2 - 4x$
 B $-2x - 4$
 C $2x - 4$
 D $2x^2 - 4x$

6. Calculate $\frac{15y^2 - 10y}{-5y}$.

A $-3y - 2$
 B $-3y + 2$
 C $3y - 2$
 D $3y + 2$

Complete the statements in #7 and #8.

7. The expression $\frac{-24x^2 + 8xz}{4x}$ is equivalent to $\underline{\hspace{2cm}}$.

8. A polynomial multiplication expression that is equivalent to $24d^2 - 12d$ is $\underline{\hspace{2cm}}$.

Short Answer

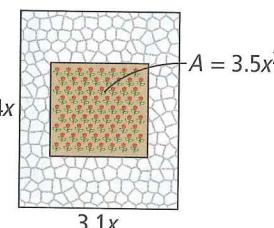
For #9 to #11, show all of the steps in your solutions.

9. Calculate $(2.4x)(4y)$.

10. What is the product of $12h$ and $\frac{-3}{4}h + 2$?

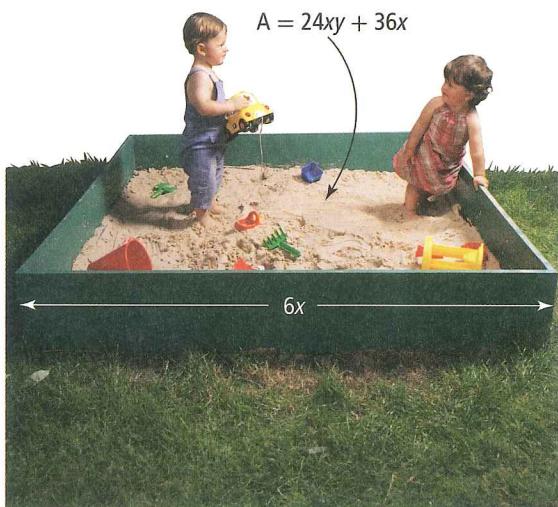
11. Simplify $\frac{2x^2 + 3x}{-3x}$.

12. Paula is building a rectangular patio. It will have a square flower bed in the middle. The rest will have paving stones. The patio will have a length of $4x$ and a width of $3.1x$. The area of the flower bed will be $3.5x^2$. What area of the patio will need paving stones?



13. A sports field is 15 m longer than twice its width. What is an expression for the area of the field in terms of its width, w ? Expand the expression.

14. The area of a rectangular sandbox can be expressed as $24xy + 36x$. The width of the sandbox is $6x$. What is the perimeter of the sandbox?



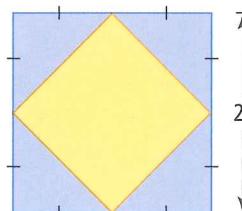
Extended Response

15. a) What error did Karim make when completing the division statement shown?

$$\begin{aligned} & -18d^2 - 6d \\ & \quad \frac{3d}{3d} \\ & = \frac{-18d^2}{3d} + \frac{6d}{3d} \\ & = -6d + 2 \end{aligned}$$

b) Show the correct method.

16. A square with a side length of $2s$ has a smaller square inscribed. The vertices of the smaller square are at the midpoints of the sides of the larger square. What is the ratio of the area of the larger square to the area of the smaller square? Express your answer in its simplest form.



Math Link: Wrap It Up!

You have been hired to create a landscape design for a park. The park is rectangular and covers an area of $500\ 000\ m^2$. The park includes the following features:

- a play area covered with bark mulch
- a sand area for playing beach volleyball
- a wading pool

The features in your design include the following shapes:

- a circular area
- a rectangular area
- a parallelogram-shaped area with the base three times the height

The features of your park have varying depths.

Include the following in your design:

- a scale drawing showing the layout of each of the required features
- a list showing the area of each feature and the volume of each material (mulch, sand, and water) required to complete the park
- a polynomial expression for the area and volume of each feature, using a variable for one of the dimensions

