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Chapter 9 Vocabulary Test/Review

SCORE _____

composite number	greatest common factor (GCF)	prime polynomial
factored form	perfect square trinomials	Square Root Property
factoring	prime factorization	Zero Product Property
factoring by grouping	prime number	

Write the letter of the term that best matches each statement or each expression.

_____ **1.** $x^2 + 8x + 16$

_____ **2.** You can apply this property to solve the equation $(x + 2)^2 = 16$.

_____ **3.** $x^2 + 9x + 4$

_____ **4.** a whole number that is expressed as the product of factors that are all prime numbers

_____ **5.** You can often use this factoring technique if a polynomial has 4 or more terms.

_____ **6.** the property you would use to solve the equation $(x + 2)(x - 2) = 0$

_____ **7.** the number 14

_____ **8.** a monomial that is expressed as the product of prime numbers and variables, with no variable having an exponent greater than 1

_____ **9.** the number 5

a. composite number

b. factored form

c. factoring by grouping

d. perfect square trinomial

e. prime factorization

f. prime number

g. prime polynomial

h. Square Root Property

i. Zero Product Property

In your own words—
Define each term.

10. factoring

11. greatest common factor

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Chapter 9 Quiz

(Lessons 9–1 and 9–2)

SCORE _____

1. Find the factors of 175. Then classify 175 as *prime* or *composite*. 1. _____

2. Find the prime factorization of -160. 2. _____

3. Factor $33a^3b^2$ completely. 3. _____

Find the GCF of each set of monomials. 4. _____

4. 12, 90

5. $20xy$, $48xy^2$ 5. _____

Factor each polynomial completely. 6. _____

6. $48a^2b^2 - 12ab$

7. $6x^2y - 21y^2w + 24xw$ 7. _____

8. $xy - 2xz + 5y - 10z$ 8. _____

Solve each equation. 9. _____

9. $(y + 4)(3y - 5) = 0$

10. $y^2 = -11y$ 10. _____

Assessment

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Chapter 9 Quiz

(Lesson 9–3)

SCORE _____

Factor each trinomial completely.

1. $a^2 - 10a + 21$ 1. _____

2. $x^2 + 9x + 20$ 2. _____

For Questions 3 and 4, solve each equation.

3. $x^2 - 6x - 27 = 0$ 3. _____

4. $y^2 + 23y = 24$ 4. _____

5. Find two consecutive odd integers whose product is 195. 5. _____

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Chapter 9 Quiz

(Lessons 9–4 and 9–5)

SCORE _____

Factor each trinomial completely, if possible. If the trinomial cannot be factored using integers, write *prime*.

1. $2x^2 + 7x + 3$
2. $6x^2 + x + 2$

Solve each equation.

3. $3n^2 + 6 = 11n$
4. $10x^2 + 11x - 6 = 0$

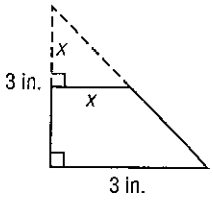
Factor each polynomial completely, if possible. If the polynomial cannot be factored write *prime*.

5. $a^2 - 25$
6. $49x^2 - 64y^2$
7. $x^3 + 3x^2 - 4x - 12$

For Questions 8 and 9, solve each equation by factoring.

8. $16x^2 = 81$
9. $\frac{4}{9}p^2 - 25 = 0$

10. **Standardized Test Practice** A corner is cut off a right triangle whose legs each measure 3 inches. The cut is x inches from the vertex and parallel to the opposite leg.



   a. Write an equation in terms of x that represents the area A of the figure after the corner is removed.

   b. What value of x will result in an area that is $\frac{3}{4}$ the area of the original triangle? Show how you arrived at your answer.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10a. _____
b. _____

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Chapter 9 Quiz

(Lesson 9–6)

SCORE _____

For Questions 1 and 2, determine whether each trinomial is a perfect square trinomial. If so, factor it.

1. $a^2 + 14a + 49$
2. $9z^2 - 3z + 1$
3. Factor $8m^3 - 24m^2 + 18m$ completely if possible. If it cannot be factored, write *prime*.

Solve each equation.

4. $16r^2 - 8r + 1 = 0$
5. $x^2 + 6x + 9 = 49$

1. _____
2. _____
3. _____
4. _____
5. _____