

**Chapter 5 - Practice Test
Answer Section**

MULTIPLE CHOICE

1. ANS: D PTS: 1 DIF: B OBJ: Section 5.1
NAT: AN4 TOP: Multiplying Polynomials
KEY: multiplying | binomial by binomial | distributive property
2. ANS: C PTS: 1 DIF: B OBJ: Section 5.1
NAT: AN4 TOP: Multiplying Polynomials
KEY: multiplying | binomial by binomial | distributive property
3. ANS: B PTS: 1 DIF: B OBJ: Section 5.1
NAT: AN4 TOP: Multiplying Polynomials
KEY: multiplying | binomial by binomial | distributive property
4. ANS: B PTS: 1 DIF: B OBJ: Section 5.1
NAT: AN4 TOP: Multiplying Polynomials
KEY: multiplying | binomial by binomial | distributive property
5. ANS: D PTS: 1 DIF: B OBJ: Section 5.1
NAT: AN4 TOP: Multiplying Polynomials
KEY: multiplying | binomial by binomial | area | distributive property
6. ANS: A PTS: 1 DIF: B OBJ: Section 5.1
NAT: AN4 TOP: Multiplying Polynomials
KEY: multiplying | binomial by binomial | distributive property
7. ANS: A PTS: 1 DIF: A OBJ: Section 5.1
NAT: AN4 TOP: Multiplying Polynomials
KEY: multiplying | binomial by binomial | algebra tiles | distributive property
8. ANS: A PTS: 1 DIF: B OBJ: Section 5.1
NAT: AN4 TOP: Multiplying Polynomials
KEY: multiplying | binomial by binomial | distributive property | surface area
9. ANS: B PTS: 1 DIF: A OBJ: Section 5.2
NAT: AN1 | AN5 TOP: Common Factors KEY: factoring | GCF
10. ANS: C PTS: 1 DIF: B OBJ: Section 5.2
NAT: AN5 TOP: Common Factors KEY: factoring | binomial | symbolic
11. ANS: A PTS: 1 DIF: B OBJ: Section 5.2
NAT: AN5 TOP: Common Factors KEY: factoring | binomial | symbolic
12. ANS: A PTS: 1 DIF: A OBJ: Section 5.1
NAT: AN5 TOP: Multiplying Polynomials KEY: factoring | symbolic
13. ANS: D PTS: 1 DIF: C OBJ: Section 5.4
NAT: AN5 TOP: Factoring Special Trinomials
KEY: perfect square | trinomial | substitution
14. ANS: D PTS: 1 DIF: B OBJ: Section 5.4
NAT: AN5 TOP: Factoring Special Trinomials KEY: difference of squares | factoring
15. ANS: B PTS: 1 DIF: A OBJ: Section 5.4
NAT: AN5 TOP: Factoring Special Trinomials
KEY: factoring | perfect square | trinomial
16. ANS: C PTS: 1 DIF: A OBJ: Section 5.3
NAT: AN5 TOP: Factoring Trinomials KEY: multiplying | adding | factors

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| 17. ANS: D | PTS: 1 | DIF: A | OBJ: Section 5.3 |
| NAT: AN5 | TOP: Factoring Trinomials | | KEY: factoring trinomial |
| 18. ANS: C | PTS: 1 | DIF: B | OBJ: Section 5.3 |
| NAT: AN5 | TOP: Factoring Trinomials | | KEY: factoring trinomial |
| 19. ANS: C | PTS: 1 | DIF: B | OBJ: Section 5.3 |
| NAT: AN5 | TOP: Factoring Trinomials | | KEY: factoring trinomial |
| 20. ANS: B | PTS: 1 | DIF: B | OBJ: Section 5.3 |
| NAT: AN5 | TOP: Factoring Trinomials | | KEY: factoring trinomial |

SHORT ANSWER

1. ANS:

$$\begin{aligned}
 (5x^2 + 2x + 7)^2 &= 25x^4 + 4x^2 + 49 + 20x^3 \\
 &\quad + 70x^2 + 28x \\
 &= 25x^4 + 20x^3 + 74x^2 + 28x \\
 &\quad + 49
 \end{aligned}$$

PTS: 1 DIF: D OBJ: Section 5.1 NAT: AN4
 TOP: Multiplying Polynomials
 KEY: distributive property | perfect square | polynomial | multiplying | trinomial by trinomial

2. ANS:

$$(5x + 3)(3x + 1)$$

PTS: 1 DIF: C OBJ: Section 5.2 NAT: AN5
 TOP: Common Factors KEY: factoring

3. ANS:

$$(x - 2)^2$$

PTS: 1 DIF: A OBJ: Section 5.4 NAT: AN5
 TOP: Factoring Special Trinomials KEY: factoring | perfect square | trinomial

4. ANS:

$$(5x - 7)^2$$

PTS: 1 DIF: B OBJ: Section 5.4 NAT: AN5
 TOP: Factoring Special Trinomials KEY: factoring | perfect square | trinomial

PROBLEM**1. ANS:**

a) Area of the outer rectangle:

$$A = (x + 3)(x + 4)$$

$$A = x^2 + 7x + 12$$

Area of the unshaded area:

$$A = 4 \times 5$$

$$A = 20$$

Area of the shaded area:

$$A = x^2 + 7x + 12 - 20$$

$$A = x^2 + 7x - 8$$

$$A = (x + 8)(x - 1)$$

b) Substitute $x = 3$ into $A = x^2 + 7x - 8$:

$$(3)^2 + 7(3) - 8 = 22$$

The area around the pool is 22 m².

She needs 20 m² for her dog to run.

The pool will fit in Brittany's yard with enough room for her dog to run.

PTS: 1

DIF: D

OBJ: Section 5.3 NAT: AN4 | AN5

TOP: Factoring Trinomials

KEY: area | distributive property | factoring | substitution | multiplying | binomial by binomial

2. ANS:

$k = ab$ where $(a + b) = 12$, so the possible values of a and b are 1 and 11, 2 and 10, 3 and 9, 4 and 8, 5 and 7, and 6 and 6.

The variable, k , could have values of 11, 20, 27, 32, 35, or 36.

PTS: 1

DIF: D

OBJ: Section 5.3 NAT: AN5

TOP: Factoring Trinomials

KEY: factoring | trinomial