

- _____ 12. The fully factored version of $8x^3 - 18x^2 - 18x$
- a. $2x(x-3)(4x+3)$ c. $x(2x-9)(4x+2)$
b. $x(2x-6)(4x+3)$ d. $2x(2x-9)(2x+1)$

Short Answer

- Evaluate $(cd^5)^2 - 4(3cd)^2$ when $c = 2, d = -1$.
- Evaluate $2ab^3c(a^2bc - 4a^3b^2c + 3ab^3c^2)$
- Factor completely.
 $12x^3 - 300xy^2$
- Factor completely.
 $9x^2 - 48x + 64$
- A student factored $x^4 + 2x^3 - 24x^2$ to give $(x-4)(x+6)$.
Why is this incorrect?
- Factor completely. $-3u^2 - 6u + 144$
- Explain how to factor $8x^2 - 6x - 5$, either by the ac method or the FOIL method.
- Factor completely.
 $-21a^2 + 11ab + 2b^2$
- Multiply $(5x-6)(3x^2+4x-1)$
- Factor $(y+2)(y+2) + 4(y+2)$

FOM 10 Chapter 2: 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: B | PTS: 1 | DIF: A | OBJ: Section 5.2 |
| NAT: AN1 AN5 | TOP: Common Factors | | KEY: factoring GCF |
| 3. ANS: C | PTS: 1 | DIF: B | OBJ: Section 5.2 |
| NAT: AN5 | TOP: Common Factors | | KEY: factoring binomial symbolic |
| 4. ANS: A | PTS: 1 | DIF: A | OBJ: Section 5.1 |
| NAT: AN5 | TOP: Multiplying Polynomials | | KEY: factoring symbolic |
| 5. ANS: A | PTS: 1 | DIF: A | OBJ: Section 5.4 |
| NAT: AN5 | TOP: Factoring Special Trinomials | | KEY: difference of squares factoring |
| 6. ANS: B | PTS: 1 | DIF: A | OBJ: Section 5.4 |
| NAT: AN5 | TOP: Factoring Special Trinomials | | KEY: factoring perfect square trinomial |
| 7. ANS: D | PTS: 1 | DIF: A | OBJ: Section 5.3 |
| NAT: AN5 | TOP: Factoring Trinomials | | KEY: factoring trinomial |
| 8. ANS: C | PTS: 1 | DIF: A | OBJ: Section 5.3 |
| NAT: AN5 | TOP: Factoring Trinomials | | KEY: factoring trinomial |
| 9. ANS: B | PTS: 1 | DIF: B | OBJ: Section 5.3 |
| NAT: AN5 | TOP: Factoring Trinomials | | KEY: factoring trinomial |
| 10. ANS: C | PTS: 1 | DIF: B | OBJ: Section 5.3 |
| NAT: AN5 | TOP: Factoring Trinomials | | KEY: factoring trinomial |
| 11. ANS: B | PTS: 1 | DIF: B | OBJ: Section 5.3 |
| NAT: AN5 | TOP: Factoring Trinomials | | KEY: factoring trinomial |
| 12. ANS: A | PTS: 1 | | |

SHORT ANSWER

1. ANS:
-140
- PTS: 1
2. ANS:
 $2a^3b^4c - 8a^4b^5c^3 + 6a^2b^6c^3$
- PTS: 1
3. ANS:
 $12x(x + 5y)(x - 5y)$
- PTS: 1

4. ANS:
 $(3x - 8)^2$

PTS: 1

5. ANS:
 $x^2(x - 4)(x + 6)$

PTS: 1

6. ANS:
 $-3(u - 6)(u + 8)$

PTS: 1

7. ANS:
 By the *ac*-method,

$$8x^2 - 6x - 5 \text{ changes to } x^2 - 6x - 40$$

Two numbers whose sum is -6 and product is -40 are -10 and +4.

Divide each term by the *a* term 8.

$$\left(x - \frac{10}{8}\right)\left(x + \frac{4}{8}\right)$$

The denominator of the remaining fractions becomes the coefficient of the *x* in that binomial.

$$(4x - 5)(2x + 1)$$

PTS: 3

8. ANS:
 $(-3a + 2)(7a + b)$

PTS: 1

9. ANS:
 $15x^3 + 2x^2 - 29x + 6$

PTS: 1

10. ANS:
 $(y + 2)(y + 6)$

PTS: 1