

6.1, 4 Factoring Review

Factor out the greatest common factor.

- |                                     |                                     |          |
|-------------------------------------|-------------------------------------|----------|
| 1) $12m^8 - 42m^6 + 12m^4$          |                                     | 1) _____ |
| A) $6(2m^8 - 7m^6 + 2m^4)$          | B) $6m^4(2m^4 - 7m^2 + 2)$          |          |
| C) no common factor (except 1)      | D) $m^4(12m^4 - 42m^2 + 12)$        |          |
| 2) $32x^9y^9 - 32x^7y^6 + 28x^4y^2$ |                                     | 2) _____ |
| A) $4(8x^9y^9 - 8x^7y^6 + 7x^4y^2)$ | B) $4x^4(8x^5y^9 - 8x^3y^6 + 7y^2)$ |          |
| C) $4x^4y^2(8x^5y^7 - 8x^3y^4 + 7)$ | D) no common factor (except 1)      |          |
| 3) $12m^2 - 13r^3$                  |                                     | 3) _____ |
| A) $2(6m^2 + 6r^3)$                 | B) $3(4m^2 - 4r^3)$                 |          |
| C) $m^2(12 - 13m)$                  | D) no common factor (except 1)      |          |
| 4) $t(7 - m) + s(7 - m)$            |                                     | 4) _____ |
| A) no common factor (except 1)      | B) $t(7 - m) + s$                   |          |
| C) $(t + s)(7 - m)$                 | D) $(t - s)(7 - m)$                 |          |

Factor out the greatest common factor, or a negative common factor if the coefficient of the term of greatest degree is negative.

- |                                 |  |                                    |
|---------------------------------|--|------------------------------------|
| 5) $\frac{1}{5}x + \frac{3}{5}$ |  | 5) _____                           |
| A) $\frac{1}{5}(x + 3)$         | B) $\frac{1}{5}\left(x + \frac{3}{5}\right)$ | C) $5(x + 3)$                      |
|                                 |  | D) $5\left(x + \frac{1}{3}\right)$ |
| 6) $-45x^3 - 15x$               |  | 6) _____                           |
| A) $-15x(3x^2 - 1)$             | B) $-3(15x - 5)$                             | C) $-15x(3x^2 + 1)$                |
|                                 |  | D) $5(9x - 3)$                     |

Factor by grouping.

- |                                  |                         |                       |
|----------------------------------|-------------------------|-----------------------|
| 7) $15x^2 - 20x - 9x + 12$       |                         | 7) _____              |
| A) $(15x - 3)(x - 4)$            | B) $(15x + 3)(x + 4)$   | C) $(5x + 3)(3x + 4)$ |
|                                  |                         | D) $(5x - 3)(3x - 4)$ |
| 8) $20x^2 - 25xy + 24xy - 30y^2$ |                         | 8) _____              |
| A) $(5x + 6)(4x - 5)$            | B) $(20x + 6y)(x - 5y)$ |                       |
| C) $(5x - 6y)(4x - 5y)$          | D) $(5x + 6y)(4x - 5y)$ |                       |
| 9) $42 - 6x - 7p + xp$           |                         | 9) _____              |
| A) $(7 + x)(6 - p)$              | B) $(7 + x)(6 + p)$     | C) $(7 - x)(6 + p)$   |
|                                  |                         | D) $(7 - x)(6 - p)$   |

Factor completely.

- |                     |                     |                      |
|---------------------|---------------------|----------------------|
| 10) $x^2 - x - 20$  |                     | 10) _____            |
| A) $(x + 5)(x - 4)$ | B) $(x + 4)(x - 5)$ | C) $(x + 1)(x - 20)$ |
|                     |                     | D) Prime             |

- 11)  $x^2 + 4x - 12$       A)  $(x - 6)(x + 1)$       B) Prime      C)  $(x + 6)(x - 2)$       D)  $(x - 6)(x + 2)$       11) \_\_\_\_\_
- 12)  $x^2 - 5x - 24$       A) Prime      B)  $(x - 3)(x + 1)$       C)  $(x + 3)(x - 8)$       D)  $(x - 3)(x + 8)$       12) \_\_\_\_\_
- 13)  $x^2 - x - 63$       A)  $(x + 7)(x - 9)$       B) Prime      C)  $(x - 7)(x + 9)$       D)  $(x - 63)(x + 1)$       13) \_\_\_\_\_
- 14)  $4x^2 - 40x + 100$       A)  $4(x - 25)(x + 1)$       B)  $4(x - 5)(x - 5)$       C)  $(4x - 20)(x - 5)$       D) Prime      14) \_\_\_\_\_
- 15)  $x^2 + 3xy - 10y^2$       A)  $(x - 5y)(x + 2y)$       B)  $(x + 5y)(x - 2y)$       C)  $(x - 5y)(x + y)$       D)  $(x - y)(x + 2y)$       15) \_\_\_\_\_
- 16)  $u^2 - 4uv - 45v^2$       A)  $(u - v)(u + 9v)$       B)  $(u + 5v)(u - 9v)$       C)  $(u - 5v)(u + 9v)$       D)  $(u - 5v)(u + v)$       16) \_\_\_\_\_

Factor as completely as possible. If unfactorable, indicate that the polynomial is prime.

- 17)  $15x^2 - 65x - 50$       A)  $5(3x - 2)(x + 5)$       B)  $(15x + 10)(x - 5)$       C) prime      D)  $5(3x + 2)(x - 5)$       17) \_\_\_\_\_
- 18)  $x^4 - 14x^3 + 48x^2$       A)  $x^{-6}(x^2 - 14x + 48)$       B)  $x^2(x - 6)(x - 8)$       C)  $x^2(x + 6)(x - 8)$       D)  $x^2(x - 6)(x + 8)$       18) \_\_\_\_\_

Answer Key

Testname: PRACTICE11A

- 1) B
- 2) C
- 3) D
- 4) C
- 5) A
- 6) C
- 7) D
- 8) D
- 9) D
- 10) B
- 11) C
- 12) C
- 13) B
- 14) B
- 15) B
- 16) B
- 17) D
- 18) B