5.11 Factoring a Multivariate Polynomial by Grouping: Problem Type 1

• Example 1

Factor.

$xy + yz + 3x + 3z$

Notice that y is a factor common to to the first two terms and 3 is a factor common to the last two terms.

Factoring out the common factors, we have

$xy + yz + 3x + 3z = y(x + z) + 3(x + z) = (y + 3)(x + z)$.

CHECK YOURSELF 1

Factor.

$2y + 2x + xz + yz$

CHECK YOURSELF ANSWER

1. $(x + y)(2 + z)$.

5.11 Exercises

Name

Section Date

ANSWERS

1.

2.

3.

4.

5.

6.

7.

8.

Factor each polynomial.

1. $3x - 6 + xy - 2y$

2. $2x - 10 + xy - 5y$

3. $ax + 2a + bx + 2b$

4. $4x + 12 + xy + 3y$

5. $xy - 5y - xz + 5z$

6. $14 + 7x - 2y - xy$

7. $6xy + 3y - 2x - 1$

8. $xy + 3y - 4x - 12$