Name: _____ Date: _____

BLM 3.5.1

Practice: Collect Like Terms

1. Which polynomial contains a term like xy^2?

A $4xy - x^2y$ **B** $2x^2 + 3xy^2$

C $-x + y^2 - xy$ **D** $x^2 + y^2 + 4$

2. Are the terms in each pair like or unlike?

a) $5a$ and $-2a$

b) $3x^2$ and x^3

c) $2p^3$ and $-p^3$

d) $4ab$ and $\frac{2}{3}ab$

e) $-3b^4$ and $-4b^3$

f) $6a^2b$ and $3a^2b$

g) $9pq^3$ and $-p^3q$

h) $2x^2y$ and $3x^2y^2$

3. Write one like term and one unlike term for each.

a) $4p$ **b)** $-3a^2$

c) $-k^3$ **d)** $2x$

e) $-4mn^4$ **f)** $2ab$

g) $-pq^3$ **h)** $3b^2d^2$

4. Is it possible to simplify each expression? How do you know?

a) $8a + 3a$ **b)** $5m + 2n$

c) $3p + p$ **d)** $3t - 7t$

e) $4x - 3$ **f)** $-v - 4v + 2v$

g) $6c^2 - c^2 - 3c^2$ **h)** $r^2 + 3r + 7$

5. Simplify each expression.

a) $p + 2p$ **b)** $7g - 4g$

c) $2a - 8a$ **d)** $5x - 2x$

e) $6q + q$ **f)** $4y^2 + 5y^2$

g) $u + 4u - u$ **h)** $7b^3 - 2b^3 - b^3$

6. Collect like terms. Then, simplify.

a) $4b + 3 - 2b + 1$

b) $2p - 7 - p + 4$

c) $1 + 3y + 4 + y$

d) $5 - x - 1 - 2x$

e) $6a - 2b + 3b + 2a$

f) $7r + 2 + 3r - r - 1$

g) $9s - 2s + 5t - 4s$

h) $-g - 3h + 5h + 2g - h$

7. Simplify.

a) $4 + v + 5v - 10$

b) $7a - 2b - a - 3b$

c) $8k + 1 + 3k - 5k + 4 + k$

d) $2x^2 - 4x + 8x^2 + 5x$

e) $12 - 4m^2 - 8 - m^2 + 2m^2$

f) $-6y + 4y + 10 - 2y - 6 - y$

g) $5 + 3h + h - 4 + h + 6 + 2h$

h) $4p^2 + 2q^2 - p^2 + 3p^2 - 7q^2$

8. Simplify.

a) $2a + 6b - 2 + b - 4 + a$

b) $4x + 3xy + y + 5x - 2xy - 3y$

c) $m^4 - m^2 + 1 + 3 - 2m^2 + m^4$

d) $x^2 + 3xy + 2y^2 - x^2 + 2xy - y^2$

9. The length of a rectangle is 2 times the width of the rectangle. Let x represent the width of the rectangle.

a) Write an expression to represent the length of the rectangle.

b) Write a simplified expression for the perimeter of the rectangle.

c) Suppose the width is 6 cm. Find the perimeter of the rectangle.