5.2 Practice – Like and Unlike Terms

**1.** From the list, identify terms that are like 2*w*2. Explain how you know they are like terms.  
–5*w*, –6*w*2, –2, 4*w*, 3*w*2,–*w*2,11*w*, 2

**2.** Use **algebra tiles** to model each polynomial, then **combine like terms**.  
Sketch the tiles for the simplified polynomial.

**a)** 4 + *x* + 1 + 5*x* + 1 **b)** –3*y*2 + 3*y* – 2

**c)** 2*x*2 + 8 – 11 – 4*x*2 + 5*x*2 **d)** 3*y* + 7*y*2 + 1 – *y* – 2*y* – 3*y*2

**3.** Simplify each polynomial.

**a)** 7*d* – 2*d* + 1 – 6 **b)** –5 – 3 – *k* – 5*k*

**c)** –4 + 2*a* + 7 – 4*a* **d)** 3*p* – 6 – 4*p* + 6

**4.** Simplify each polynomial.

**a)** 3*a*2 – 2*a* – 4 + 2*a* – 3*a*2 + 5 **b)** 7*z* – *z*2 + 3 + *z*2 – 7

**c)** *d*2 + 3*d* + 1 + 4*d*2 + 2 **d)** –6*x*2 + 10*x* – 4 + 4 – 12*x* – 7*x*2

**e)** 5*y*5 + 6*y* – 3 + 4*y*2 – 2 – *y*3 + *y*5 + 5*y* + 1 – *y*3 + *y*

**5.** Identify which pairs of polynomials are equivalent. Justify your responses.

**a)** –5*x*2 – 3*x* – 4 **b)** 10*x* – 1

**c)** 1 + *x* – *x*2 **d)** 2*x*2 **–** 4 – 16 **–** 7*x*2 – 3*x* + 16

**e)** –7 + 5*x* – 7*x* – 8 + 14 + 12*x* **f)** 5*x*2 + 7+ 4*x* – 6*x*2 – 6 – *x* – 2*x*

5.2 Practice – Answers

**1.** –6*w*2,3*w*2,–*w*2; like terms have thesame variable raised to the same exponent.

**2. a)** 6*x* + 6 **b)** –3*y*2 + 3*y* – 2



**c)** 3*x*2 – 3 **d)** 4*y*2 + 1

**3. a)** 5*d* – 5 **b)** –8 – 6*k* **c)** –2*a* + 3 **d)** –*p*

**4. a)** 1 **b)** 7*z* – 4 **c)** 5*d*2 + 3*d* + 3 **d)** –13*x*2 – 2*x* **e)** 6*y*5 – 2*y*3 + 4*y*2 + 12*y* – 4

**5.** a and d; b and e; c and f; each has the same terms with the same coefficients, variables raised to the same exponent.