5.4 Practice – Subtracting Polynomials

**1.** Use **algebra tiles**. Sketch your tile model. Record your answer symbolically.

**a)** (4*x* + 2) – (2*x* + 1) **b)** (4*x* + 2) – (–2*x* + 1)

**c)** (4*x* + 2) – (2*x* – 1) **d)** (4*x* + 2) – (–2*x* – 1)

**2.** Use **algebra tiles** to find each difference. Sketch your tile model. Record your answer symbolically.

**a)** (2*s*2 + 3*s* + 6) – (*s*2 + *s* + 2) **b)** (2*s*2 + 3*s* – 6) – (*s*2 + *s* – 2)

**c)** (–2*s*2 + 3*s* + 6) – (–*s*2 + *s* + 2) **d)** (2*s*2 – 3*s* + 6) – (*s*2 – *s* + 2)

**3.** Use any strategy to subtract.

**a)** (2*x* + 3) – (5*x* + 4) **b)** (4 – 8*w*) – (7*w* + 1)

**c)** (*x*2 + 2*x* – 4) – (4*x*2 + 2*x* – 2) **d)** (–9*z*2 – *z* – 2) – (3*z*2 – *z* – 3)

**4.** A student subtracted   
(3*y*2 + 5*y* + 2) – (4*y*2 + 3*y* + 2) like this:  
= 3*y*2 – 5*y* – 2 – 4*y*2 – 3*y* – 2  
= 3*y*2 – 4*y*2 – 5*y* – 3*y* – 2 – 2  
= –*y*2 – 8*y* – 4

**a)** Explain why the student’s solution is incorrect.

**b)** What is the correct answer? Show your work.

**5.** The difference between two polynomials is 5*x* + 3 . One of the two polynomials is   
– 3*x*2 + 4*x* + 1. What is the other polynomial? What is the other possible answer?

**6.** Subtract.

**a)**  (*mn* – 5*m* – 7) – (–6*n* + 2*m* + 1) **b)**(2*a* + 3*b* – 3*a*2 + *b*2) – (–*a*2 + 8*b*2 + 3*a* – *b*)

**c)** (*xy* – *x* – 5*y* + 4*y*2) – (6*y*2 + 9*y* – *xy*)

5.4 Practice – Answers

**1. a)** 2*x* + 1 **b)** 6*x* + 1 **c)** 2*x* + 3 **d)** 6*x* + 3

**2. a)** *s*2 + 2*s* + 4 **b)** *s*2 + 2*s* – 4 **c)** –*s*2 + 2*s* + 4 **d)** *s*2 – 2*s* + 4

**3. a)** –3*x* – 1 **b)** – 15*w* + 3 **c)** –3*x*2 – 2 **d)** –12*z*2 + 1

**4. a)** He changed the signs in the first polynomial. **b)** –*y*2 + 2*y*

**5.** There are two possible answers: –3*x*2 – *x* – 2 or –3*x*2 + 9*x* + 4

**6. a)** *mn* – 7*m* + 6*n* – 8 **b)** – 2*a*2 – 7*b*2 –*a* + 4*b*  **c)** – 2*y*2 + 2*xy* – *x* – 14*y*