5.5 Practice – Multiplying a Polynomial by a Monomial

**1.** Multiply.

**a)** 2(3*b*) **b)** –2(6*h*) **c)** –4(–2*b*2)

**d)** –2(2*x*2 + *y*2)**e)**–2(–*xy*2 + 3*xy* + 4*x*2*y*)**f)**–3(–2*fg* )

**2.** Determine each product.

**a)** 4(3*a* + 2) **b)** (*d*2 + 2*d*)(–3) **c)** 2(4*c*2 – 2*c* + 3)

**d)** (–2*n*2 + *n* – 1)(6) **e)** –3(–5*m*2 + 6*m* + 7)

**3.** Here is a student’s solution for a multiplication question.
(–5*k*2 – *k* – 3)(–2)
= –2(5*k*2) – 2(*k*) –2(3)
= –10*k*2 – 2*k* – 6

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

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

**4.** Find the area of each rectangle.

**a)** **b)**

**5.** Multiply.

**a)** *v*(3*v* + 1) **b)** 3*c*(5*c* + 2) **c)** (8 + 4*y* – 2*x*)(6*y*)

**d)** 5*p*(–5 – 2*pq*) **e)** (7*k* – 3)(–*m*) **f)** (–1 – 10*r* + *r*2)( –*r*)

**6.** **a)** Write a simplified polynomial to represent the shaded area.

b) Determine the shaded area when *s* = 3 cm.

7. Write a simplified polynomial for the area of this shape.



5.5 Practice – Answers

**1.** **a)** 6*b* **b)** –12*h* **c)** 8*b*2 **d)** –4*x*2 – 2*y*2  **e)**2*xy*2 – 6*xy* – 8*x*2*y* **f)** 6*fg*

**2.** **a)** 12*a* + 8 **b)** –3*d*2 – 6*d* **c)** 8*c*2 – 4*c* + 6 **d)** –12*n*2 + 6*n* – 6 **e)** 15*m*2 – 18*m* – 21

**3. a)** The negative signs in the first polynomial were forgotten when (–2) was distributed.

 **b)** 10*k*2 + 2*k* + 6

**4. a)** 6*d2* + 8*d* **b)** 4*y2* + 6*y*

**5. a)** 3*v*2 + *v* **b)** 15*c*2 + 6*c* **c)** 48*y* + 24*y*2 – 12*xy* **d)** –25*p* – 10*p*2*q* **e)** –7*km* + 3*m* **f)** *r* + 10*r*2 – *r*3

**6. a)** 4*s*2 + 2*s* **b)** 42 cm2

**7.** 63*x*2