Independent Practice **Expressions and Operations A.11**

Read and solve.

1. The area of a rectangle is given by $A= 6x^2y + 4y^2x$ and the width of the rectangle is $w = 2xy$. What is the length, l, of the rectangle if $l = \frac{A}{w}$?

   A. $l = 3x^2y + 2y^2x$
   B. $l = 6x^2y + 4y^2x + 2xy$
   C. $l = 4x + 2y$
   D. $l = 3x + 2y$

2. Which expression is equivalent to $\frac{6x^3 - 3x^2 + 5x}{3x}$?

   A. $x + 5$
   B. $-2x^2 + 5x$
   C. $2x^2 - x + \frac{5}{3}$
   D. $2x - 3 + \frac{5}{3}$

3. Which expression is equivalent to $\frac{8x^4 - 2x^2}{2x^2}$?

   A. $4x^2$
   B. $6x^2$
   C. $4x^2 - 1$
   D. $6x^2 - 1$

4. Which is equivalent to $(3a + b)(2a - 4b)$?

   A. $5a - 3b$
   B. $6a^2 - 4b^2$
   C. $5a^2 - 10ab + 5ab^2$
   D. $6a^2 - 10ab - 4b^2$

5. Which is equivalent to $(5x^2 + 4x + 1) + (-7x + 2)$?

A. $-2x^2 + 6x + 1$
B. $5x^2 – 3x – 1$
C. $5x^2 – 3x + 3$
D. $5x^2 + 11x + 3$

6. Which is equivalent to $(7g + 8h – 9) + (-g – 3h – 6k)$?

A. $6g + 5h – 15k$
B. $6g + 5h – 6k – 9$
C. $-7 – 2h + 54k$
D. $8g + 11h + 6k – 9$

7. Which is equivalent to $(3m + 6n – 5) – (2m – 3n + 6)$?

A. $m – 3n + 1$
B. $m – 3n – 1$
C. $m + 9n – 11$
D. $-5m – 9n – 11$

8. Which is equivalent to $(7x – 2)(3x + 4)$?

A. $10x^2 + 6x + 2$
B. $21x^2 – 8$
C. $21x^2 + 22x – 8$
D. $21x^2 + 28x – 2$

9. Which is equivalent to $(y – 12)(y + 12)$?

A. $y^2 – 144$
B. $y^2 + 144$
C. $y^2 – 24y – 144$
D. $y^2 + 24y – 144$

10. Which is equivalent to $(5x^2 + 17x – 14) + (-3x^2 – 8x + 6)$?

A. $2x^2 + 9x – 8$
B. $2x^4 + 9x^2 – 8$
C. $8x^2 + 25x + 20$
D. $-15x^2 – 136x – 84$

11. Which is equivalent to $(10x + 12y)^2$?

A. $10x^2 + 12y^2$
B. $100x^2 + 120xy + 144y^2$
C. $100x^2 + 144y^2$
D. $100x^2 + 240xy + 144y^2$

12. Which is equivalent to $(18x^4 – 6x^3 + 7x – 6) – (4x^4 + 6x^2 – 6x + 15)$?

A. $-21x^9$
B. $15x^9 – 21$
C. $12x^4 + x + 9$
D. $14x^4 – 6x^3 – 6x^2 + 13x – 21$

13. Which is equivalent to $(x – 6)(3x – 4)$?

A. $3x^2 – 24$
B. $3x^2 + 24$
C. $3x^2 – 22x + 24$
D. $3x^2 + 14x – 24$