

Polynomial Function Transformations

- _____ 1. Which of the following is a translation of the function $f(x) = 4x^2 + 7x + 6$ to the right 8 units?
- a. $g(x) = 4x^2 + 7x + 14$ c. $g(x) = 4x^2 - 57x + 206$
b. $g(x) = 4x^2 + 71x + 318$ d. $g(x) = 4x^2 + 7x - 2$
- _____ 2. Which translation of the function $f(x) = 6x^2 - 2x + 3$ results in the function $g(x) = 6x^2 - 2x - 4$?
- a. up 7 units c. right 7 units
b. left 7 units d. down 7 units
- _____ 3. Which transformation of the function $f(x) = -48x^2 + 16x + 8$ results in the function $g(x) = -12x^2 + 4x + 2$?
- a. vertical shrink by a factor of $1/4$
b. vertical stretch by a factor of 4
c. horizontal shrink by a factor of $1/4$
d. horizontal stretch by a factor of 4
- _____ 4. Which of the following functions is a transformation of a horizontal stretch by a factor of 2 to the function $f(x) = -8x^2 + 8x - 6$?
- a. $g(x) = -16x^2 + 16x - 12$ c. $g(x) = -4x^2 + 4x - 3$
b. $g(x) = -2x^2 + 4x - 6$ d. $g(x) = -32x^2 + 16x - 6$
- _____ 5. Which of the following is a coordinate location for a reflection over the x -axis of the function $f(x) = 5x^2 - 5x - 8$?
- a. $(-15, -1192)$ c. $(-20, -2091)$
b. $(-14, -1043)$ d. $(-19, -1891)$

- _____ 6. Which of the following is a translation of the function $f(x) = -8x^2 + 9x + 7$ down 3 units?
- a. $g(x) = -8x^2 + 9x + 10$ c. $g(x) = -8x^2 + 57x - 92$
b. $g(x) = -8x^2 + 9x + 4$ d. $g(x) = -8x^2 - 39x - 38$
- _____ 7. Which translation of the function $f(x) = -7x^2 + 7x + 2$ results in the function $g(x) = -7x^2 + 7x + 8$?
- a. up 6 units c. right 6 units
b. left 6 units d. down 6 units
- _____ 8. Which transformation of the function $f(x) = -16x^2 - 8x + 4$ results in the function $g(x) = -64x^2 - 16x + 4$?
- a. horizontal stretch by a factor of 2
b. horizontal shrink by a factor of $1/2$
c. vertical stretch by a factor of 2
d. vertical shrink by a factor of $1/2$
- _____ 9. Which of the following functions is a transformation of a horizontal shrink by a factor of $\frac{1}{2}$ to the function $f(x) = 8x^2 + 8x + 8$?
- a. $g(x) = 32x^2 + 16x + 8$ c. $g(x) = 4x^2 + 4x + 4$
b. $g(x) = 16x^2 + 16x + 16$ d. $g(x) = 2x^2 + 4x + 8$
- _____ 10. Which of the following is a coordinate location for a reflection over the y-axis of the function $f(x) = 5x^2 + 2x + 5$?
- a. (12, 700) c. (14, 956)
b. (10, 486) d. (8, 309)

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Answer Section

1. ANS: C
2. ANS: D
3. ANS: A
4. ANS: B
5. ANS: A
6. ANS: B
7. ANS: A
8. ANS: B
9. ANS: A
10. ANS: D

