

Quiz 3

College Algebra Solutions

1. The slope is 3, since $f(x - 55) + 10 = 3(x - 55) + 15 = 3x - 40$.
2. No solutions, as the lines are parallel.
3. Given information not necessary. $g(3) = 3^4$.

If desired, $g(-3)^3 = (-3)^{12} = 3^{12}$. Therefore, $g(3) = 3^4 = \frac{531,441}{3^8} = \frac{3^{12}}{3^8} = 3^4$.

4. ± 3 , since x^2 equals 9 only at $x = 3$ and $x = -3$.
5. $f(h(x)) = 3x^2 + 5$, which is even, since $f(h(-x)) = 3x^2 + 5$.
6. $3x + 5 = 1^4 = 1$, so $x = \frac{-4}{3}$.
7. It's x^2 shifted up 10 and 2 to the right.
8. Slope is $\frac{6-3}{2-1} = 3$. Since y decrease by 3 as we move to the left by one, the y-intercept is 0. The line is $y = 3x$.
9. The function is $g(x + 2) - 5 = (x + 2)^4 - 5$.
10. $8 = 3(1) + 5$.

Note problem 3 is out of one point.

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College Algebra

$$f(x) = 3x + 5$$

$$g(x) = x^4$$

$$h(x) = x^2$$

State thought process and justification.

1. What's the slope of the line $f(x)$ shifted to right by 55 and up by 10?
2. Find all solutions to $3x = f(x)$.
3. Given $g(-3)^3 = 531,441$, find $g(3)$.
4. Solve $h(x) = 9$.
5. Is $f(h(x))$ even or odd?
6. Find all solutions to $f(x) = g(h(1))$.
7. Graph $h(x - 2) + 10$.
8. Find the line going through the points $(1, 3)$ and $(2, 6)$.
9. What's the function generated by shifting $g(x)$ to the left by 2 and down by 5?
10. Find $f(h(1))$.