

Algebra I Homework #15 – Answer Key

1) 7.619×10^{-5}

2) $\frac{2}{3x^2ya^2} - \frac{4x^2y^3}{9a} - \frac{9y}{8xa^3}$

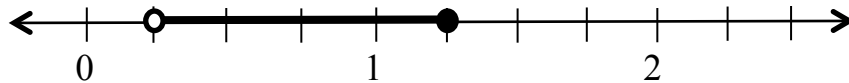
3) $y = \frac{9}{4}x$

4) $-5x^2 + 15x - 43 + \frac{138}{x+3}$

5) $18x^5 + 18x^4 - 5x^3 + 39x^2 - 7x$

6) $g \circ f(x) = -32x^2 + 68x - 41 \quad g \circ f(-7) = -2085$

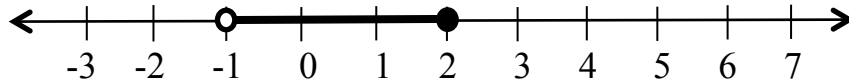
7) $\frac{5}{4} \geq x > \frac{1}{4}$



8) $Domain = \{-2, 4, 3, -4, 5, 0, -5\} \quad Range = \{3, -6, -2, -1, 0, 2\}$ It is a function

9) $f \circ g(x) = -x^4 + 4x^3 - 19x^2 + 30x - 52 \quad f \circ g(3) = -106$

10) $-1 < x \leq 2$



11) $(f - g)(x) = -2x^3 + x^2 + 14x - 13 \quad (f - g)(-5a) = 250a^3 + 25a^2 - 70a - 13$

12) $\frac{-7}{6} \geq x > \frac{-13}{6}$



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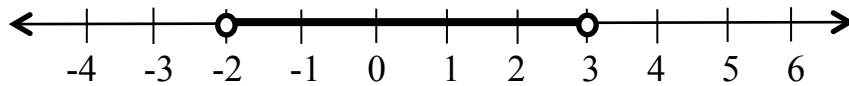
-2

-1

13) $Domain = \{8, 7, -5, 6, -3, 9, 0, -6\}$ $Range = \{-9, 3, -2, -7, 0, 8, 5, 6\}$ It is not a function

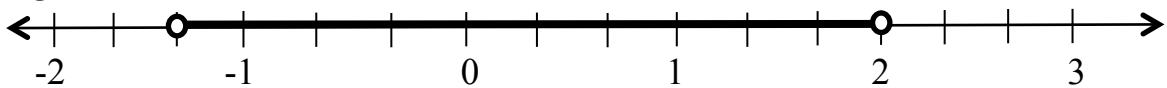
14) $\frac{g}{f}(x) = \frac{4x-9}{2x+7}$ $\frac{g}{f}(2a-3) = \frac{8a-21}{4a+1}$

15) $3 > x > -2$



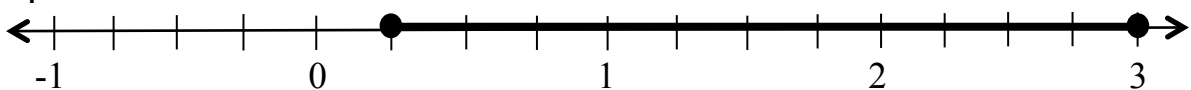
16) $(f + g)(x) = 4x^2 - 5x - 4$ $(f - g)(x) = 4x^2 + x + 6$ $(f \cdot g)(x) = -12x^3 - 14x^2 + 7x - 5$
 $(f \circ g)(x) = 36x^2 + 126x + 111$ $(g \circ f)(x) = -12x^2 + 6x - 8$ $(f \circ g)(-2) + (f - g)(4) = 77$

17) $2 > x > \frac{-4}{3}$



18) $Domain = \{0, -11, -4, 12, 6, -1, -5, 8\}$ $Range = \{5, 7, 4, 0, -13, 9, 6, -5\}$ It is not a function

19) $3 \geq x \geq \frac{1}{4}$



20) $Domain = \{7, -7, -6, 0, 6, 5, -3, -1, -5, -4\}$ $Range = \{-9, 8, -1, 12, -10, 2\}$ It is a function