Unit 1B Day 1 Review Practice — Part A

Functions, slope, and rate of change

Name: _____ HR: _____ Date: _____

Directions: Show work. Questions 1–3 review prerequisite skills.

1. Evaluate $(-3)^2$.	**2.** Simplify $2(a-4)+5$.	**3.** Compute $\frac{-8-4}{5-(-1)}$.
4. Evaluate $f(-3)$. $f(x)=2x^2$	**5.** Evaluate $g(-4)$. $g(x)=3x-5$	**6.** Evaluate $h(-6)$. $h(x)=\frac{1}{2}x+7$
7. Simplify $p(a-8)$. $p(x)=\frac{1}{4}x+3$	**8.** Simplify $q(b+6)$. $q(x)=\frac{1}{3}x-4$	**9.** Simplify $r(c-2)$. $r(x)=2x+5$
10. Find the slope through (−3, −2) and (3, 4). Describe the line's direction.	**11.** Find the slope through (−4, 5) and (2, 1). Describe the line's direction.	**12.** Find the slope through (−2, −3) and (4, 6). Describe the line's direction.

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Name: _____ HR: _____ Date: _____

Directions: Show work. Use up to the right (increasing) or down to the right (decreasing).

13. Find the slope through (−5, 4) and (3, 0). Describe the line's direction.	**14.** Find the slope through (2, −4) and (2, 5). Describe the line's direction.	**15.** Find the slope through (−3, 6) and (4, 6). Describe the line's direction.
16. Find the average rate of change. $h(x)=x^2-3$ From $x=1$ to $x=4$.	**17.** Find the average rate of change. $h(x)=x^2+2$ From $x=2$ to $x=5$.	**18.** Find the average rate of change. $h(x)=x^2-5$ From $x=0$ to $x=6$.
19. Find the average rate of change. Time (min): 1 4 7 Water (gal): 90 72 54 Include units and explain the sign.	**20.** At 2 hours, a tank holds 140 gallons. At 8 hours, it holds 92 gallons. Find the average rate of change, with units. Explain the sign.	**21.** Find the average rate of change. $p(x)=x^2+1$ From $x=3$ to $x=7$.