

7.1 – 7.2 Quiz Review

Use when you get it right all by yourself
S Use when you did it all by yourself, but made a silly mistake
H Use when you could do it alone with a little help from teacher or peer
G Use when you completed the problem in a group
X Use when a question was attempted but wrong (get help)
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Direct VS Inverse Variation	1	2, 4 - 8	3
Graphing Rational Functions	9, 10	11, 12	13, 14
Vertical Asymptotes	9, 10	11, 12	13, 14
Horizontal Asymptotes	9, 10	11, 12	13, 14
Slant Asymptotes		11, 12	13, 14
Holes		11, 12	13, 14
Domain & Range	9, 10	11, 12	13, 14
x-intercepts		9 - 12	13, 14

I. Tell whether x and y show direct variation, inverse variation, or neither variation. Justify your answer with work.

1. $x + y = 7$

2. $\frac{2}{5}x = y$

3. $xy = 0.45$

$K = \frac{2}{5}$

$K = 0.45$

neither

direct

inverse

II. Tell whether x and y show direct variation, inverse variation, or neither variation. Justify your answer with work.

4.

x	3	6	9	12
y	9	18	27	36

direct ; $K = 3$

5.

x	1	2	3	4
y	-24	-12	-8	-6

inverse, $K = -24$

6.

x	2	4	6	8
y	72	36	18	9

neither

III. Write an equation, and then solve for y.

7. The variables x and y vary inversely, and $y = 10$ when $x = 5$. Write an equation that relates x and y. Then find y when $x = -2$.

$K = 50$

$y = \frac{50}{x}$

$y = -25$

8. The time t (in minutes) required to empty a tank varies inversely with the pumping rate r (in gallons per minute). The rate of a certain pump is 70 gallons per minute. It takes the pump 20 minutes to empty the tank. Find the time it takes to empty tank when the pumping rate is 65 gal/min.

$$K = 1400 \quad t = \frac{1400}{r} \quad \approx 22 \text{ mins}$$

IV. Graph the function. Fill in the missing information. Then state the domain and range in interval notation. If part of the missing information does not apply to the given function write **NONE** on the blank. **DO NOT LEAVE BLANK!**

9. $f(x) = \frac{6}{x} + 1$

Hole: none

VA: $x = 0$

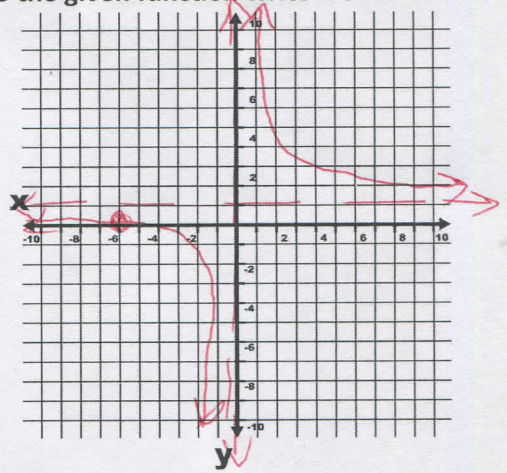
HA: $y = 1$

SA: none

x-int: $(-6, 0)$

Domain: $(-\infty, 0) \cup (0, \infty)$

Range: $(-\infty, 1) \cup (1, \infty)$



10. $g(x) = \frac{-2}{x+3} - 2$

Hole: none

VA: $x = -3$

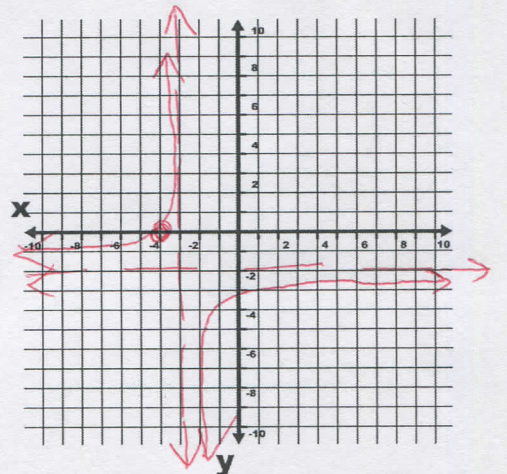
HA: $y = -2$

SA: none

x-int: $(-4, 0)$

Domain: $(-\infty, -3) \cup (-3, \infty)$

Range: $(-\infty, -2) \cup (-2, \infty)$



11. $h(x) = \frac{2x+2}{3x+1}$

Hole: none

VA: $x = -\frac{1}{3}$

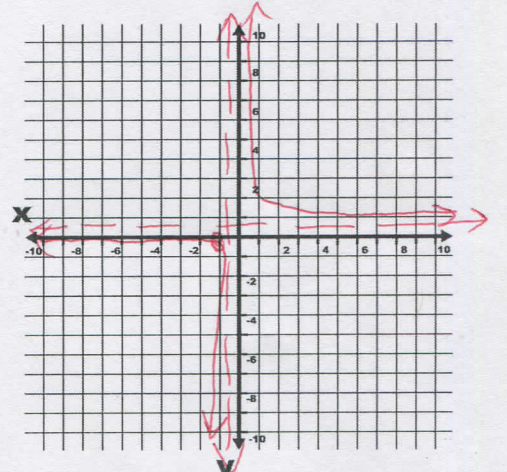
HA: $y = \frac{2}{3}$

SA: none

x-int: $(-1, 0)$

Domain: $(-\infty, -\frac{1}{3}) \cup (-\frac{1}{3}, \infty)$

Range: $(-\infty, \frac{2}{3}) \cup (\frac{2}{3}, \infty)$



$$12. k(x) = \frac{2x+9}{x+8}$$

VA: $x = -8$

SA: none

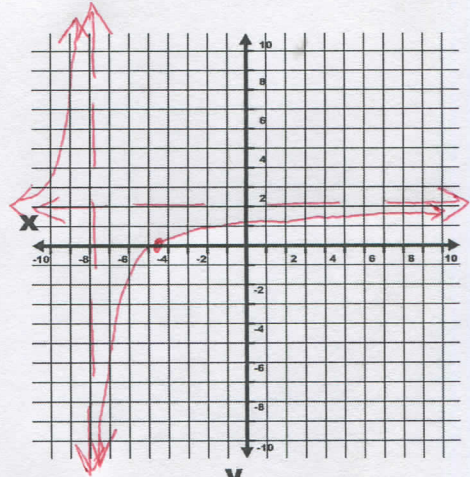
Domain: $(-\infty, -8) \cup (-8, \infty)$

Hole: none

HA: $y = 2$

x-int: $(-\frac{9}{2}, 0)$

Range: $(-\infty, 2) \cup (2, \infty)$



$$13. f(x) = \frac{x^2+5x-14}{x-2}$$

VA: none

SA: none

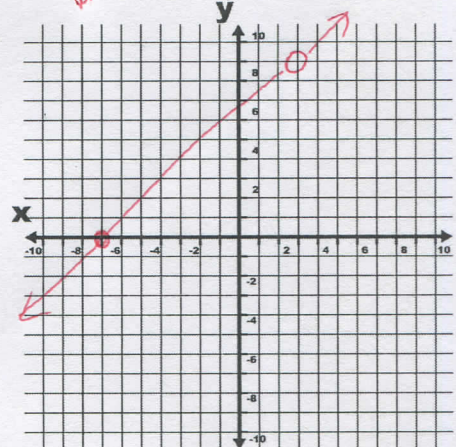
Domain: $(-\infty, 2) \cup (2, \infty)$

Hole: $(2, 9)$

HA: none

x-int: $(-7, 0)$

Range: $(-\infty, 9) \cup (9, \infty)$



$$14. (x) = \frac{x^2+5x-14}{x+2}$$

VA: $x = -2$

SA: $y = x + 3$

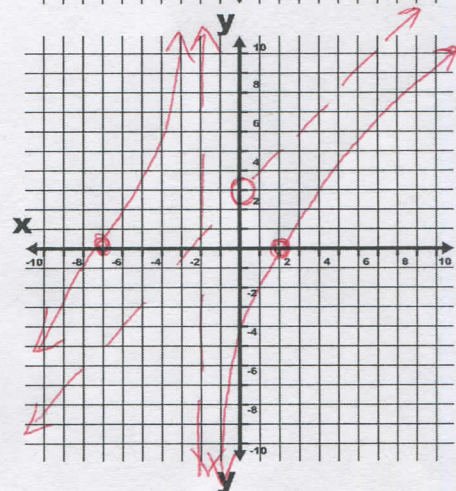
Domain: $(-\infty, -2) \cup (-2, \infty)$

Hole: none

HA: none

x-int: $(7, 0)$ & $(-7, 0)$

Range: $(-\infty, \infty)$



CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

