

CHAPTER Quiz**8** **Lessons 8-1 Through 8-5**

Select the best answer.

1. If a varies jointly with b and c , which statement is also true?
- A** b varies directly with a and inversely with c .
- B** c varies directly with b and inversely with a .
- C** b varies jointly with a and c .
2. P varies directly with Q and inversely with R , and $P = 9$ when $Q = 3$ and $R = 4$. Find Q when $P = 1$ and $R = 0.5$.
- F** $\frac{1}{24}$
- G** $\frac{1}{8}$
- H** 24
3. Based on the data set, which statement is true?

A	5	4	2
B	6	2	3
C	15	36	12

- A** A varies directly with B and inversely with C .
- B** B varies jointly with A and C .
- C** C varies directly with A and inversely with B .
4. Simplify $\frac{2x^2 - 5x - 3}{x^2 - 16} \div \frac{4x^2 - 1}{2x^2 + 7x - 4}$.
- F** $\frac{x - 3}{x - 4}$
- G** $\frac{2x^2 - 9x + 4}{2x^2 - 7x + 3}$
- H** $\frac{x^2 - 9}{x^2 - 7x + 12}$

5. Find the solution set for the equation

$$\frac{5 - x}{x^2 - 3x - 10} = 2.$$

- A** $\{-5\}$
- B** $\{2.5\}$
- C** There is no solution.
6. Simplify $\frac{x}{1 - x^2} - \frac{x}{1 - x}$.
- F** $\frac{-1}{x^2 - 1}$ **G** $\frac{x}{1 - x^2}$
- H** $\frac{x}{x^2 - 1}$
7. Ted walks once around a track at an average rate of 4 miles per hour. He then runs once around the track. If his average for the two laps is 6 miles per hour, what is his average rate when running?
- A** 8 mph
- B** 9 mph
- C** 12 mph
8. Which function is continuous?
- F** $A(x) = \frac{1}{x^2 + 2x + 1}$
- G** $B(x) = \frac{1}{x^2 + 2x + 2}$
- H** $C(x) = \frac{x}{x^2 - 1}$
9. Identify all asymptotes of $f(x) = \frac{x^2 + 2x - 15}{x^3 + 1}$.
- A** vertical asymptote: $x = -1$; horizontal asymptote: $y = 0$
- B** vertical asymptote: $x = -1$; horizontal asymptotes: $y = -5$ and $y = 3$
- C** no vertical asymptote; horizontal asymptote: $y = 0$

CHAPTER 8

Section Quiz Lessons 8-1 Through 8-5

- | | |
|------|------|
| 1. A | 6. H |
| 2. F | 7. C |
| 3. C | 8. G |
| 4. F | 9. A |
| 5. C | |