

CHAPTER
8**Chapter Test**
Form A

Select the best answer.

1. Which equation is best represented by the statement “ x varies jointly with y and z ”?
- A** $x = kyz$ **B** $x = \frac{k}{yz}$
2. P varies inversely with Q , and $P = 12$ when $Q = 8$. Find P when $Q = 3$.
- A** 2
B 32
C 96
3. Based on the data set, which statement is true?

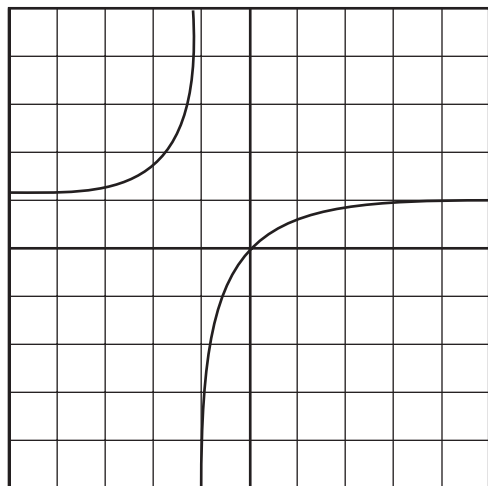
A	10	3	15
B	5	8	10
C	3	16	4

- A** A varies jointly with B and C .
B B varies jointly with A and C .
C C varies jointly with A and B .
4. Simplify $\frac{6x - 18}{x^2 - 4} \times \frac{x^2 + 5x + 6}{x^2 - 9}$.
- A** $\frac{6}{x - 2}$
B $\frac{6x + 12}{x^2 - x - 6}$
5. Find the solution set for the equation $\frac{x^2 - 6x + 8}{x - 2} = 5$.
- A** {9}
B {2, 9}

6. Simplify $\frac{1}{1-x} + \frac{x}{x-1}$.
- A** $x + 1$ **C** $\frac{x+1}{1-x}$
B $\frac{x+1}{x-1}$
7. Which of the following is equal to $\frac{x}{1 - \frac{1}{x}}$?
- A** $\frac{x-1}{x}$ **C** $\frac{x^2}{x-1}$
B $\frac{x}{x-1}$
8. Ted walks from his home to the post office at an average rate of 3 miles per hour. He then walks back at an average rate of 5 miles per hour. What is his average rate for the entire trip?
- A** $3\bar{6}$ mph
B 3.75 mph
C 4 mph
9. Which function is continuous?
- A** $A(x) = \frac{x}{1+x^2}$
B $B(x) = \frac{x}{1+x^3}$
10. Identify all asymptotes of $f(x) = \frac{3x - 12}{x + 2}$.
- A** vertical asymptote: $x = -2$;
horizontal asymptote: $y = 3$
B vertical asymptote: $x = -2$;
horizontal asymptote: $y = 4$
11. Which function has a hole in its graph?
- A** $A(x) = \frac{x^2 - 4x + 4}{x^2 - 4}$
B $B(x) = \frac{x^2 + 4x - 4}{x^2 - 4}$
C $B(x) = \frac{x^2 - 4x + 4}{x^2 + 4}$

CHAPTER 8 **Chapter Test**
Form A continued

12. Which of the following could be the equation for the graph?



A $a(x) = \frac{x + 2}{x - 2}$

B $b(x) = \frac{x - 2}{x + 2}$

C $d(x) = \frac{2x + 1}{x + 2}$

13. How many solutions are there to the equation $\frac{2}{x + 1} + \frac{4}{x^2 - 1} = 1$?

A 0

B 1

C 2

14. Working alone, Machine A can produce 1000 widgets in 6 hours. Working alone, Machine B can produce 1000 widgets in 9 hours. How long will it take the two machines to produce the 1000 widgets if they are both used at the same time?

A 3 hours and 36 minutes

B 3 hours and 45 minutes

15. Which expression is equal to $\frac{\sqrt{xy^3}}{xy}$?

A $x^{-\frac{1}{2}}y^{\frac{1}{2}}$

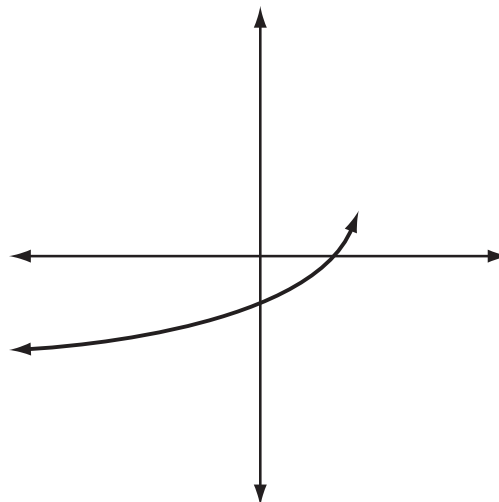
B $x^{\frac{3}{2}}y^{\frac{5}{2}}$

16. Which is equal to 10?

A $(\sqrt{10})(\sqrt[3]{10})(\sqrt[6]{10})$

B $(\sqrt{10})(\sqrt[4]{10})(\sqrt[8]{10})$

17. Which could be the equation for the graph?



A $a(x) = \sqrt{x - 5} - 2$

B $b(x) = \sqrt{5 - x} - 2$

C $d(x) = -\sqrt{5 - x} - 2$

18. Solve $\sqrt{5x - 2} = 2\sqrt{2x - 5}$.

A $x = -8$

B $x = 6$

19. Which is an extraneous solution to $\sqrt{3x + 1} = x - 3$?

A $x = 1$

B $x = 5$

C There is no extraneous solution.

20. What is the solution set to the equation

$x - 3 = (5x - 1)^{\frac{1}{2}}$?

A {10}

B {1, 10}

Answer Key Algebra 2

CHAPTER 8

Chapter Test Form A: Multiple Choice

- | | |
|-------|-------|
| 1. A | 11. A |
| 2. B | 12. C |
| 3. B | 13. B |
| 4. A | 14. A |
| 5. A | 15. A |
| 6. C | 16. A |
| 7. C | 17. B |
| 8. B | 18. B |
| 9. A | 19. A |
| 10. A | 20. A |