

MLC - MTH095 Review Problems for Test 4

This is not a sample test. These problems are designed to get you started on your review for the test. Study the homework from the textbook and your textbook for a more complete review.

Section 8.5

Solve each of the equations. Indicate the LCD and solve algebraically (by hand).

1. $\frac{4}{x} = 5 - \frac{6}{x}$

2. $\frac{3}{4x} - \frac{1}{2} = \frac{5}{8x}$

3. $\frac{-1}{x-5} = \frac{x-6}{x-5}$

4. $4 + \frac{3}{x+2} = \frac{4}{x^2+2x}$

5. $\frac{6}{x^2} + 2 = \frac{3}{x}$

6. $\frac{4}{x-2} - 1 = \frac{2}{x+1}$

7. Find all x-intercepts for the equation: $f(x) = \frac{x+1}{x+3} - \frac{x+2}{x-5}$

Solve for the specified variable:

8. $Q = \frac{tpZ}{k}$, for k

9. $N = \frac{pt}{1+tm}$, for t

10. $p = \frac{bhq}{B}$, for q

Section 8.7

Translate each phrase into an equation.

11. m varies directly as the square of h .

12. g varies inversely as the square root of t .

Write an equation, then find the requested value of the variable.

13. If G varies directly as the cube of R , and $G = 10$ when $R = 5$, find G when $R = 10$.

14. If B varies inversely as $t + 2$ and $B = 12$ when $t = 1$, find B when $t = 4$.

15. The intensity of a television signal varies inversely as the square of the distance from the transmitter.

The intensity of a signal is 110 watts per square meter at a distance of 0.4 km.

a) Find an equation for the intensity, I , at distance D .

b) Find the intensity at a distance of 10 km.

c) Find the distance from the transmitter if the intensity is 8 watts per square meter.

Section 9.5

Solve the equations.

16. $\sqrt{x} = 7$

17. $\sqrt{x} = -7$

18. $3\sqrt{x} + 4 = 22$

19. $\sqrt[3]{x+5} = 4$

20. $\sqrt{5x-1} = \sqrt{3x+5}$

21. $8 + \sqrt{15+x} = 2$

22. $\sqrt{x+6} - \sqrt{x-2} = 2$

23. $3 = \sqrt{6+x} + \sqrt{x}$

Use "intersect" on a graphing calculator to solve each equation. Draw a rough sketch of each.

24. $\sqrt{x-2} = 5 - \sqrt{x+3}$

25. $\sqrt{x+6} = -x^2 + 2x + 3$