

Math 3 Advanced

8.1 Rational Functions (part 2)

State all horizontal and vertical asymptotes of the function.

1. $g(x) = \frac{-1}{x-4}$

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

3. $h(x) = \frac{4x-2}{3-2x}$

4. $r(x) = \frac{x}{3x+1}$

5. $g(x) = \frac{-2}{x^2-x-12}$

6. $h(x) = \frac{-3}{(x+1)^2}$

7. $g(x) = \frac{x+2}{(x-2)(x+7)}$

8. $q(x) = \frac{x-3}{x^2-x-20}$

9. $g(x) = \frac{x^2+4x-12}{x}$

10. $h(x) = \frac{x+4}{x^2+3x-4}$

11. $g(x) = \frac{x^2-x-20}{x-5}$

12. $g(x) = \frac{3}{4+x^2}$

Answer List

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|------------------------------|--|
| 1. $x = 4, y = 0$ | 2. $x = 3, y = -1$ |
| 3. $x = \frac{3}{2}, y = -2$ | 4. $x = -\frac{1}{3}, y = \frac{1}{3}$ |
| 5. $x = -3, x = 4, y = 0$ | 6. $x = -1, y = 0$ |
| 7. $x = 2, x = -7, y = 0$ | 8. $x = -4, x = 5, y = 0$ |
| 9. $x = 0$ | 10. $x = 1, y = 0$ |
| 11. none | 12. $y = 0$ |

Catalog List

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|--------------|---------------|---------------|---------------|
| 1. TRI ID 2 | 2. TRI ID 6 | 3. TRI ID 10 | 4. TRI ID 14 |
| 5. TRI ID 18 | 6. TRI ID 22 | 7. TRI ID 26 | 8. TRI ID 30 |
| 9. TRI ID 34 | 10. TRI ID 38 | 11. TRI ID 42 | 12. TRI ID 46 |