

Trig 6-3 Asymptotes

Name: _____

Time> Start: _____ Finish: _____ Total Time = _____

For 1- 10, determine the horizontal and vertical asymptotes for each function.

If none exists for the function, just write "none."

1. $y = \frac{x}{x^2 - x - 12}$ H = _____ V = _____

2. $y = \frac{x+5}{x^2 + 3x + 2}$ H = _____ V = _____

3. $y = \frac{3x^4 + 4x - 2}{x}$ H = _____ V = _____

4. $y = \frac{x^6 + x - 6}{x - 2}$ H = _____ V = _____

5. $y = \frac{x^4 + 5x + 3}{x + 2}$ H = _____ V = _____

6. $y = \frac{x^2}{x - 6}$ H = _____ V = _____

7. $y = \frac{x}{x^2 - x - 12}$ H = _____ V = _____

8. $y = \frac{5x}{x^2 - 4}$ H = _____ V = _____

9. $y = \frac{3x^3 + 5}{x - 2}$ H = _____ V = _____

10. $y = \frac{3x^2 + 4x - 2}{x}$ H = _____ V = _____

For 11-20, determine whether a hole exists or what the slant asymptote equation is.
A function cannot contain both.

11. $y = \frac{x^2 - x - 2}{x + 2}$ Hole = _____ Slant = _____

12. $y = \frac{x^2 + 2x - 8}{x - 2}$ Hole = _____ Slant = _____

13. $y = \frac{x^2 + 9x - 10}{x - 1}$ Hole = _____ Slant = _____

14. $y = \frac{x^2 + 7x + 10}{x + 2}$ Hole = _____ Slant = _____

15. $y = \frac{x^2 + 6x + 5}{x + 2}$ Hole = _____ Slant = _____

16. $y = \frac{x^2 + 8x + 7}{x + 7}$ Hole = _____ Slant = _____

17. $y = \frac{x^2 + 5x + 4}{x + 2}$ Hole = _____ Slant = _____

18. $y = \frac{x^2 + 10x + 9}{x + 1}$ Hole = _____ Slant = _____

19. $y = \frac{x^2 + 4x + 3}{x + 3}$ Hole = _____ Slant = _____

20. $y = \frac{x^2 + 12x + 20}{x + 5}$ Hole = _____ Slant = _____