

NAME _____ DATE _____

ALGEBRA II TASK: FIND THE THIEF!

Help! Someone stole my Thinker statue. I have a list of suspects, which I will share with you later. To find the thief, find the horizontal and vertical asymptotes of each rational function. Afterwards, find the answer on the suspect list and cross off that cell, eliminating that suspect. Whoever has not been eliminated is the thief.



NOTE: This is NOT how real crimes are solved!



1. $y = \frac{2x^2 - 18}{x^2 - 4x + 3}$

2. $y = \frac{2x^3 - 18}{x^2 - 4x + 3}$

3. $y = \frac{x-1}{2x-6}$

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

5. $y = \frac{4x-36}{x^2+9}$

6. $y = \frac{4x^2-36}{x^2+9}$

7. $y = \frac{x+9}{x^2+3x-4}$

8. $y = \frac{2x^2}{x^2-9x}$

9. $y = \frac{2x^2-3x+1}{x^2-4x+3}$

10. $y = \frac{2x}{x^3-9x}$

11. $y = \frac{x^3-27}{2x^2-6x}$