

#12D Combo WS

Date _____

Period _____

Simplify:

1) $\frac{8v^2}{36v}$

2) $\frac{8x^2 - 24x - 80}{x^3 - 14x^2 + 45x}$

3) $\frac{8}{4} \cdot \frac{5}{3n^3}$

4) $\frac{n^2 + n - 6}{8n^2 - 40n} \cdot \frac{n^2 - 3n - 10}{n^2 + 5n + 6}$

5) $\frac{5}{3x^2} \div \frac{5x^2}{6x}$

6) $\frac{p^2 - 9p - 10}{6p^2 - 54p} \div \frac{p^2 - 15p + 50}{p^2 - 14p + 45}$

7) $\frac{2a}{3a} - \frac{a+3}{3a^2 + 9a - 54}$

8) $\frac{2}{5x-6} + \frac{4}{x+6}$

Solve each equation. Remember to check for extraneous solutions.

9) $\sqrt{\frac{m}{5}} = \sqrt{6-m}$

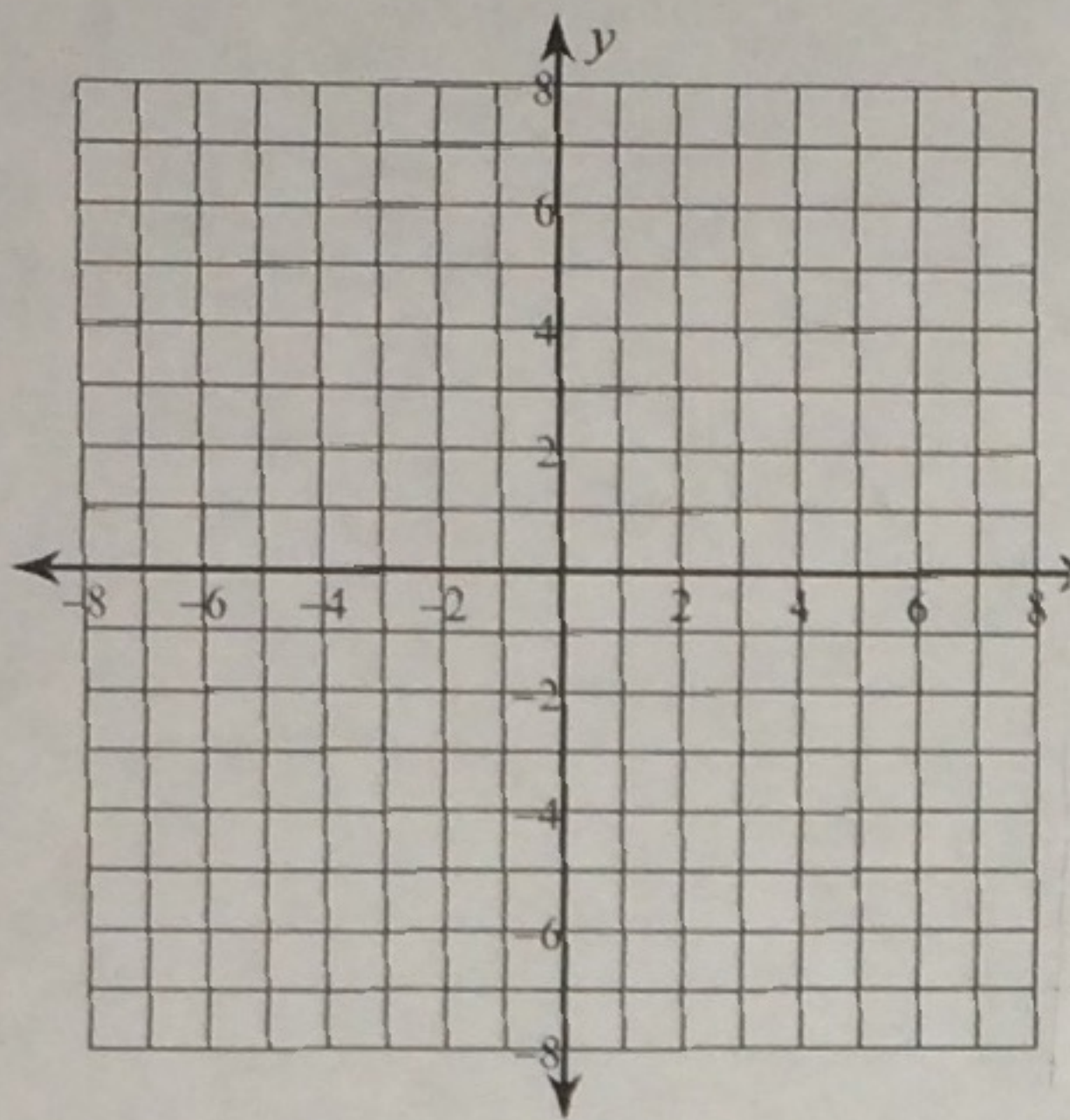
10) $\sqrt{3b-8} = b-4$

11) $\frac{1}{2x} + \frac{5}{4} = \frac{1}{4x}$

12) $\frac{2}{v^2 - v - 12} = \frac{1}{v-4} + \frac{6}{v^2 - v - 12}$

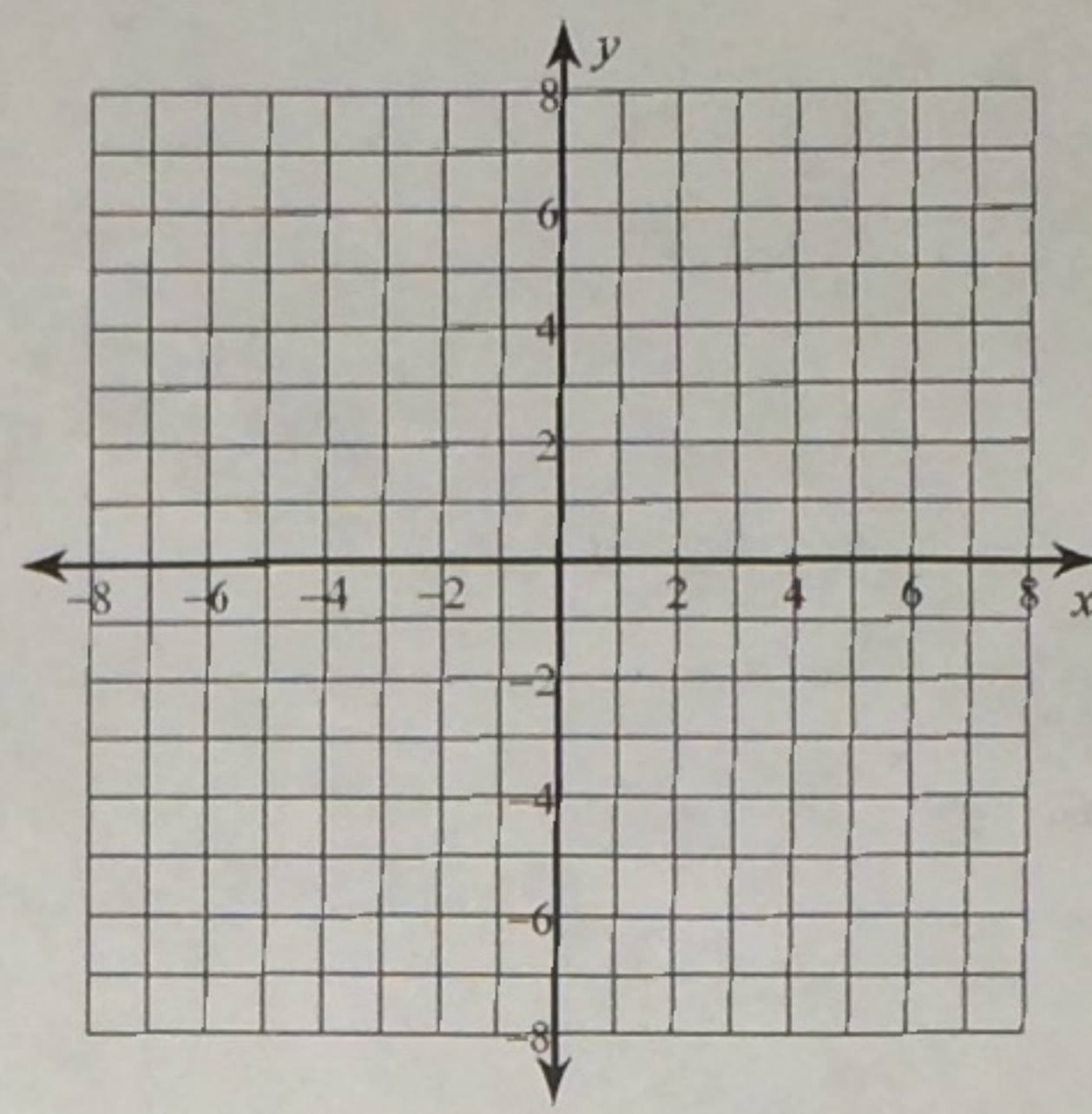
Identify the points of discontinuity, holes, vertical asymptotes, x-intercepts, and horizontal asymptote of each. Then sketch the graph.

$$13) f(x) = \frac{x^2 + 2x - 3}{3x + 12}$$



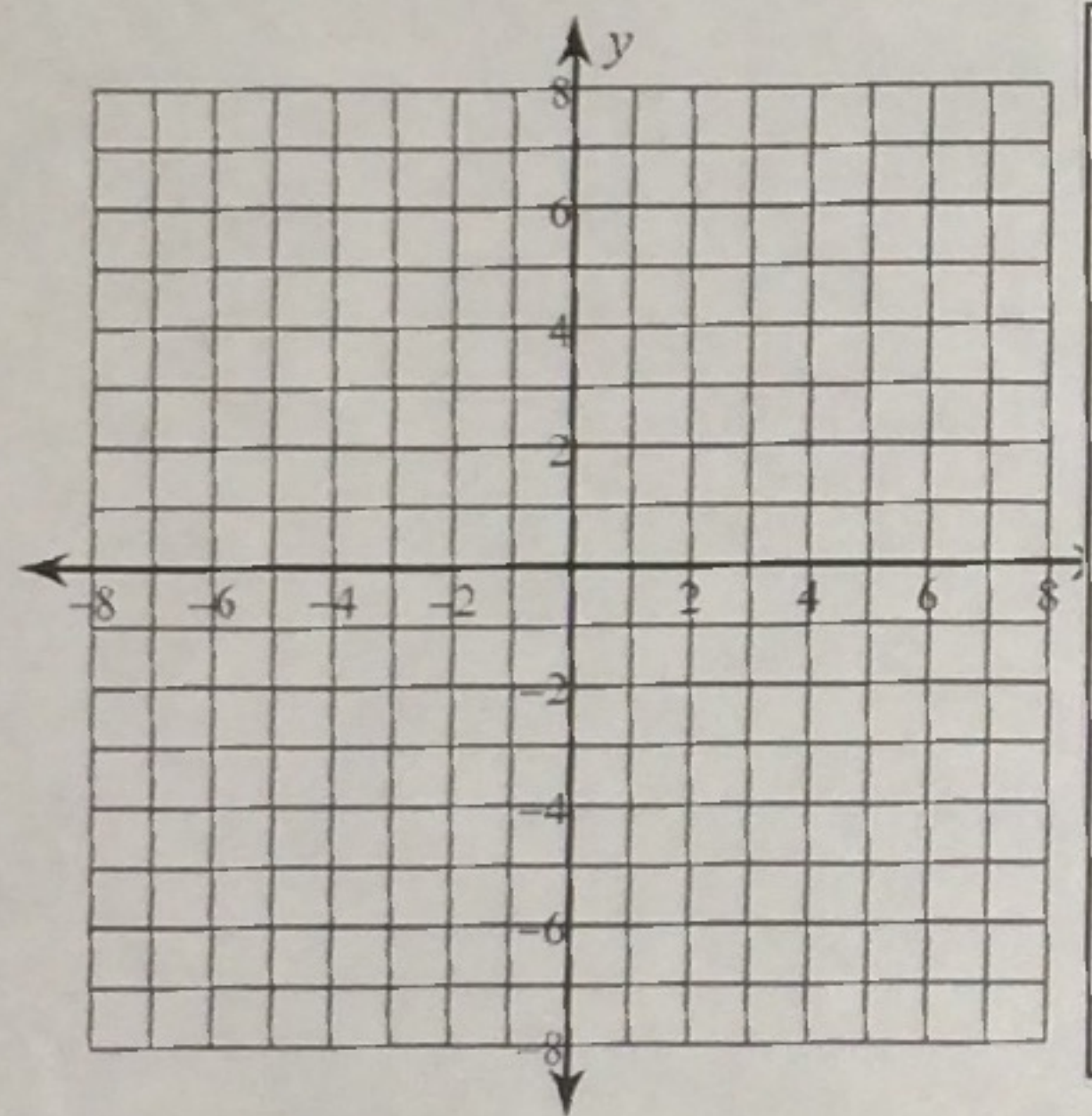
Hole: _____
 VA: _____
 HA: _____
 SA: _____
 x-int: _____
 y-int: _____
 D: _____
 R: _____

$$14) f(x) = \frac{x^3 + x^2 - 12x}{4x^2 - 4x - 24}$$



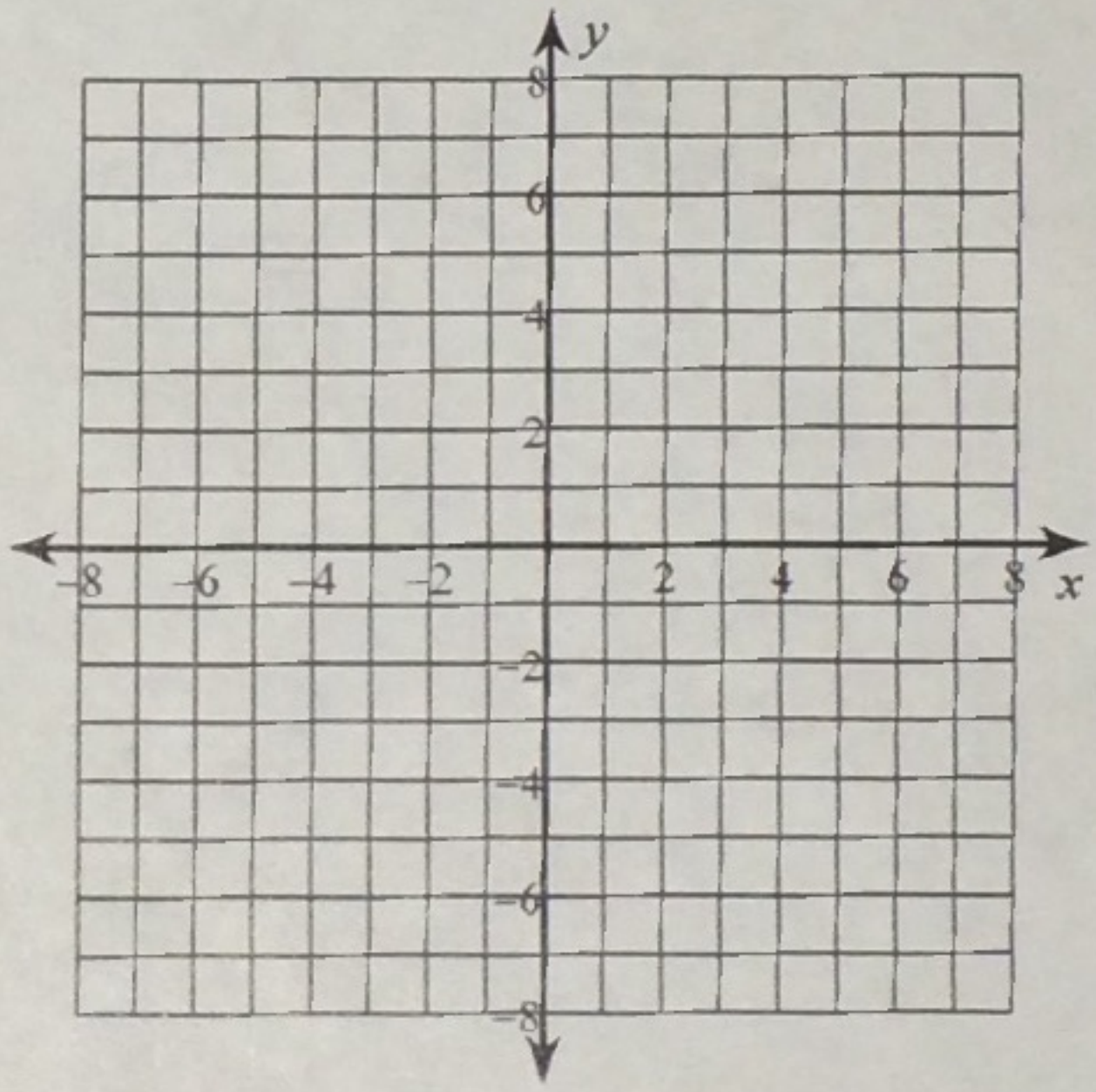
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$$15) f(x) = \frac{-2x + 8}{x^2 - 4x}$$



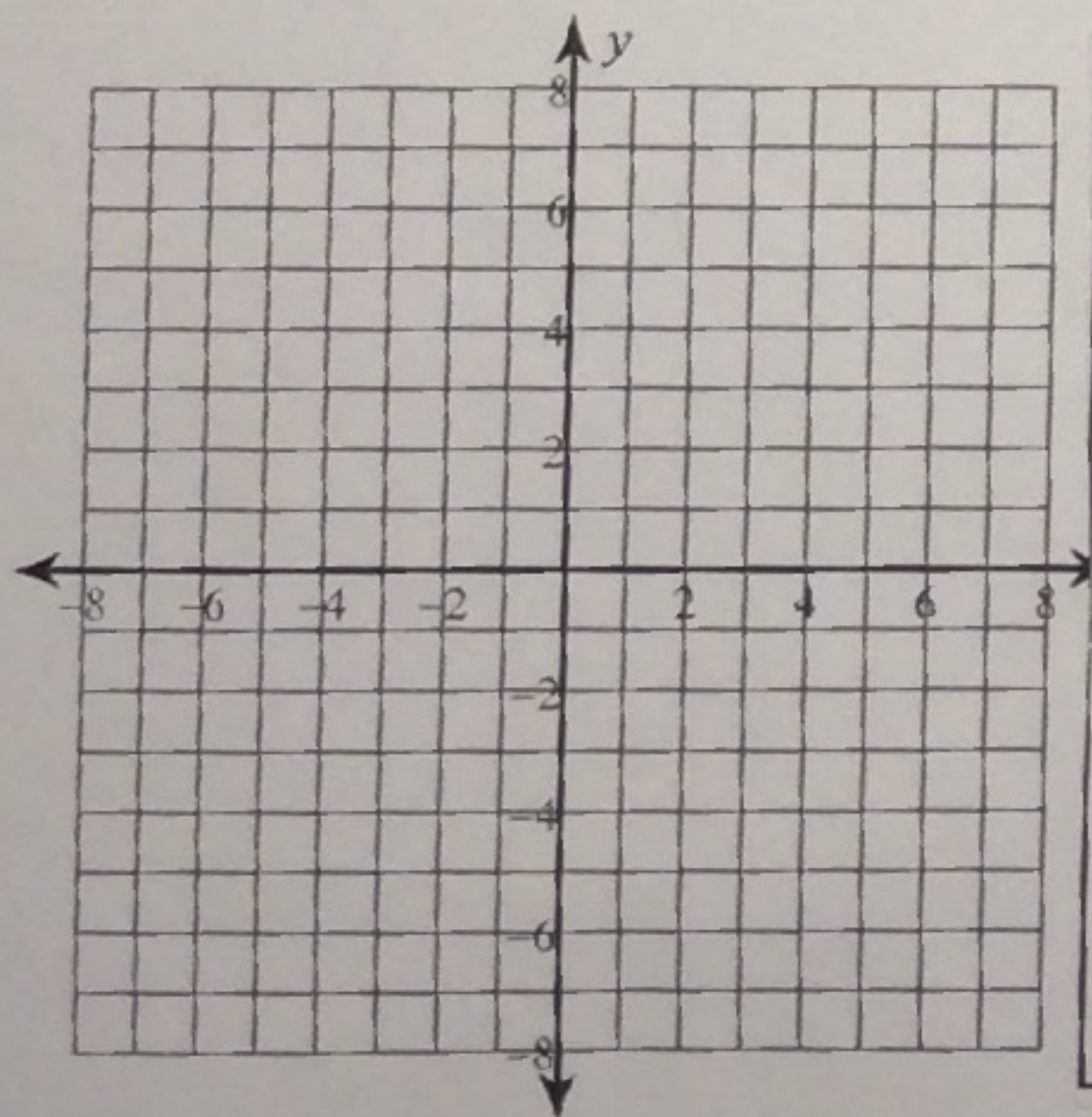
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 y-int: _____
 D: _____
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$$16) f(x) = \frac{-2x + 6}{x - 1}$$



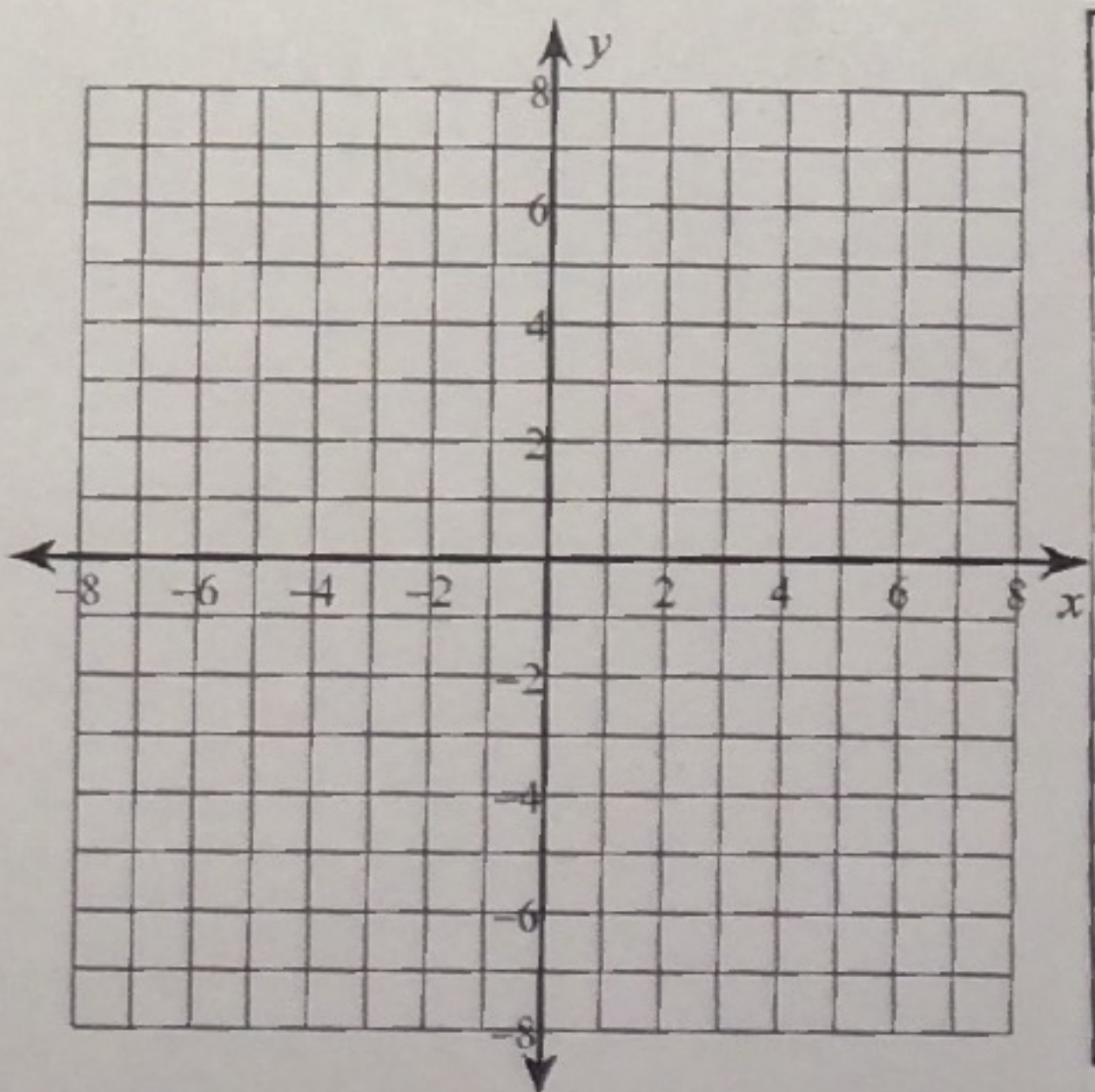
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 y-int: _____
 D: _____
 R: _____

$$17) f(x) = \frac{x^2 - 4}{-2x^2 + 12x - 16}$$



Hole: _____
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 HA: _____
 SA: _____
 x-int: _____
 y-int: _____
 D: _____
 R: _____

$$18) f(x) = \frac{x^3 - 5x^2 + 4x}{2x^3 - 14x^2 + 24x}$$



Hole: _____
 VA: _____
 HA: _____
 SA: _____
 x-int: _____
 y-int: _____
 D: _____
 R: _____