

pg. 495 # 3-39 x3, 26

3. discontinuity - denominator equals zero

$$\frac{3x-3}{x^2-1} \quad \frac{3(x-1)}{(x+1)(x-1)}$$

discontinuous at $x=-1$ (VA) & $x=1$ (hole)

12. $y = \frac{x+3}{(2x+3)(x-1)}$ no factors divide to = 1

discontinuous at $x = -\frac{3}{2}$ and $x=1$ (VA)

21. HA. $\frac{P(x)}{Q(x)}$ degree $Q(x)$ bigger HA $y=0$

$\frac{P(x)}{Q(x)}$ } degrees equal HA $y = \frac{\text{leading coeff}}{\text{leading coeff}}$

$\frac{P(x)}{Q(x)}$ degree $P(x)$ bigger no HA

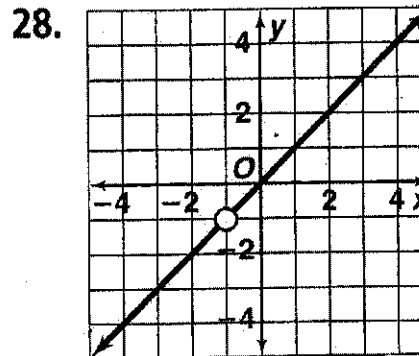
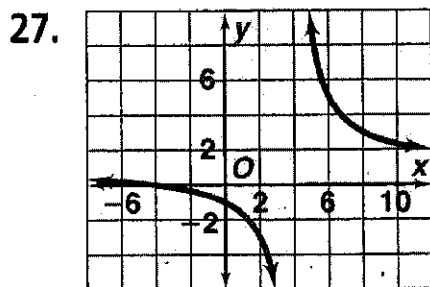
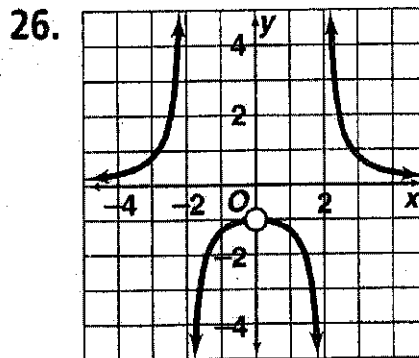
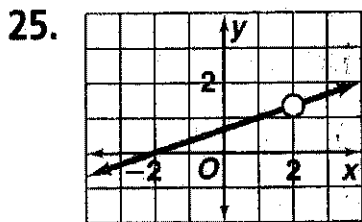
Answers for Lesson 9-3, pp. 495–498 Exercises

1. $x = 0, x = 2$ 2. none 3. $x = 1, x = -1$
 4. $x = 2, x = 3$ 5. $x = -3$ 6. $x = -\frac{7}{2}, x = 1$
 7. $x = 2$ 8. none
 9. $x = -2.77, x = 1.27$
 10. vertical asymptote at $x = -2$
 11. hole at $x = -5$
 12. vertical asymptotes at $x = -\frac{3}{2}$ and $x = 1$
 13. vertical asymptote at $x = -1$, hole at $x = 2$
 14. hole at $x = -2$ 15. none
 16. holes at $x = \pm 3$ 17. none
 18. vertical asymptote at $x = -5$, hole at $x = -\frac{2}{3}$

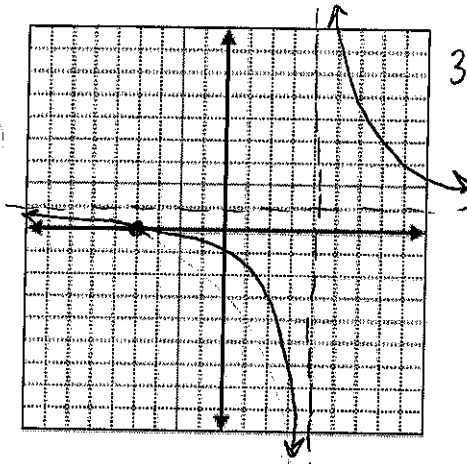
19. $y = 0$ 20. $y = 0$ 21. $y = 1$
 22. $y = \frac{1}{2}$ 23. $y = 0$ 24. $y = \frac{3}{4}$

33. VA
 $x = -2$

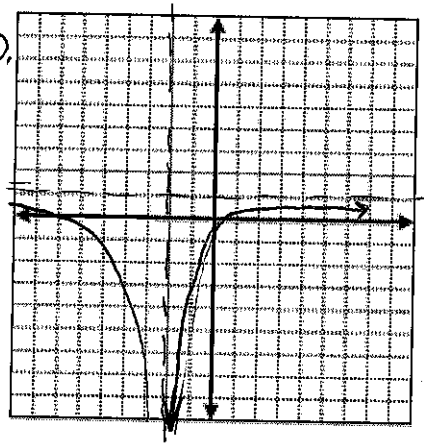
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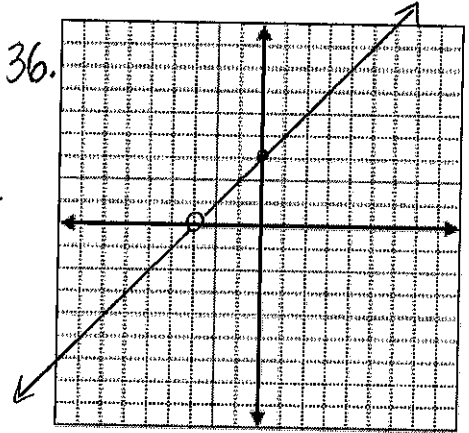
27.



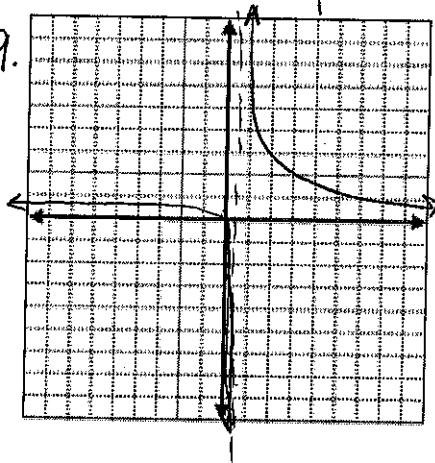
30.



36.



39.



26.

