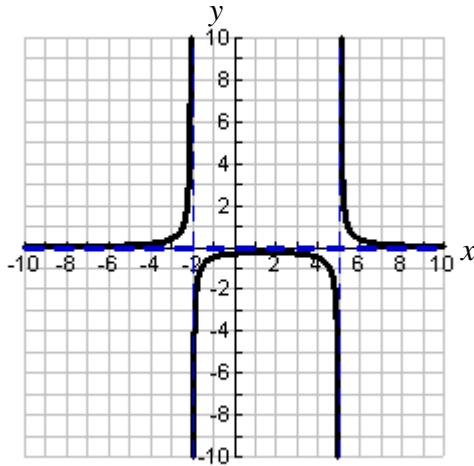


## Precalculus B Review Answers

There may be instances where your decimal approximation is slightly different from the given answer, depending on how you may have rounded during the solving of the problem.

1.



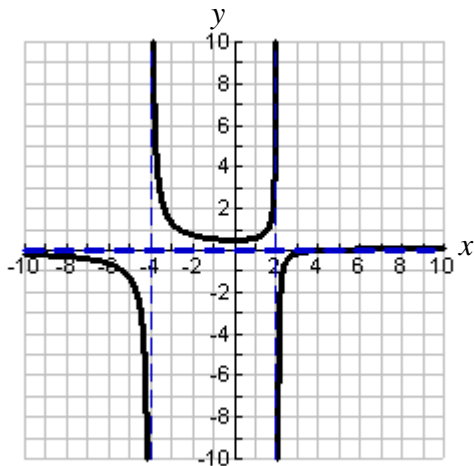
Vertical Asymptotes:  $x = -2, x = 5$

Horizontal Asymptote:  $y = 0$

x-intercept: none

y-intercept:  $\left(0, -\frac{3}{10}\right)$

2.



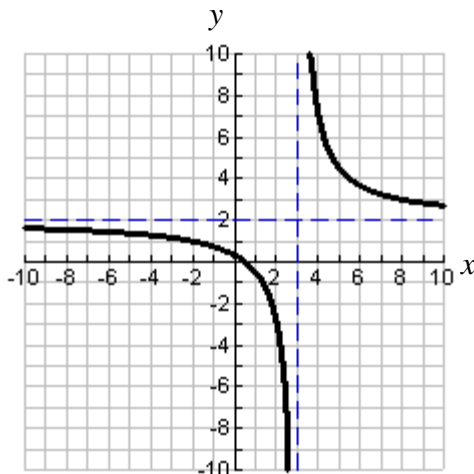
Vertical Asymptotes:  $x = -4, x = 2$

Horizontal Asymptote:  $y = 0$

x-intercept:  $(4, 0)$

y-intercept:  $\left(0, \frac{1}{2}\right)$

3.



Vertical Asymptote:  $x = 3$

Horizontal Asymptote:  $y = 2$

x-intercept:  $\left(\frac{1}{2}, 0\right)$

y-intercept:  $\left(0, \frac{1}{3}\right)$

## Precalculus B Review Answers

---

4. **D**

5.  $x = -5, x = 2$

6.  $x = -2$  ( $x = 4$  is extraneous)

7. **D**

8. **B**

9. **B**

10. **C**

11. **C**

12. 4.543

13.  $-3.173$

14.  $g(x) = -3^{x+5}$

15.  $g(x) = 9^{-\frac{x}{7}}$

16.  $x = \frac{1}{2} \ln 19$

17.  $x = 5.675$

18.  $x = \frac{\frac{\log 100}{\log 2} + 1}{3} \approx 2.548$

19.  $x = e^2 - 4 \approx 3.389$

20.  $x = \frac{50}{3}$

21.  $x = 5$  ( $x = -1$  is extraneous)

22.  $x = 3$

23.  $x = 5$

## Precalculus B Review Answers

---

24. a.  $N(t) = 600 \cdot 3^{\frac{t}{4}}$   
b.  $N(7) = 4103$   
c.  $t = 10.907$  weeks or about 11 weeks
25.  $f(x) = 10000(1.08)^t$
26.  $r = .115 = 11.5\%$  per year
27. approximately 3 years
28. a. 1300  
b. .04 or 4% per year  
c. 1939  
d. 16.348 years
29. a. 78%  
b. 16.575 years
30.  $y = 2x - 7$
31.  $y = 2x - 3$
32. a.  
 $x = 132 \cos(20^\circ)t$  or  $124.039t$   
 $y = -16t^2 + 132 \sin(20^\circ)t$  or  $-16t^2 + 45.147t$   
b.  $x = 248.079$  feet,  $y = 26.293$  feet
33. a.  
 $x = 82 \cos(63^\circ)t$  or  $x = 37.227t$   
 $y = -16t^2 + 82 \sin(63^\circ)t + 2$  or  $-16t^2 + 73.063t + 2$   
b.  $x = 55.841$  feet  $y = 75.594$  feet  
c. When the ball is 150 feet from the punter ( $t = 4.029$ ), the ball is at a height of 36.6 ft. Since the kick returner is 6 ft tall, the ball goes over his head.  
d. The ball hits the ground at  $t = 4.594$  sec about 171 feet from the punter.

## Precalculus B Review Answers

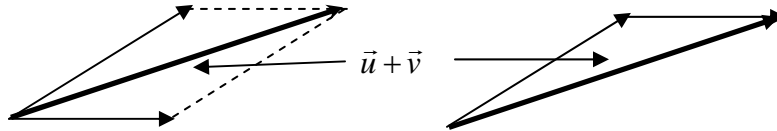
---

34.  $\langle x, y \rangle = \langle 1, 4 \rangle + t \langle 2, 5 \rangle$  or  $\langle x-1, y-4 \rangle = t \langle 2, 5 \rangle$   
 $x = 1 + 2t$   
 $y = 4 + 5t$

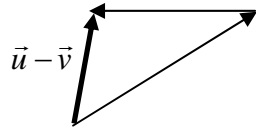
35. **B**

36. Magnitude is 10, direction is  $126.87^\circ$

37.



38.



39.  $-3$

40.  $96.116^\circ$

41.  $r = 6$

42.  $r = 7.5$

43. 6

44. 56

45. 120

46.  $\sum_{n=1}^{\infty} 8 \cdot 2^{n-1}$  or  $\sum_{n=0}^{\infty} 8 \cdot 2^n$

47.  $\sum_{n=1}^7 11 + 4(n-1) = \sum_{n=1}^7 7 + 4n$  or  $\sum_{n=0}^6 (11 + 4n)$

48. 13.5

49. No sum or  $\infty$

50. 24

51. 34

## Precalculus B Review Answers

---

52. 104

53.  $x^4 - 8x^3 + 24x^2 - 32x + 16$

54. 40