

11.1

1325 SUMMER 2-2019.

1. (a) -4
(b) 5

2. (a) -2
(b) 0

3. (a) ∞
(b)

4. (A) = 14
(key)

5. 12

6. Section 11.2

2. 4

6. (a) $C \cdot \infty$
(b) $C \cdot -\infty$
(c) $B \cdot \infty$

7. $-\infty$

8. $A = -\infty$
 $A = -1$

9. Ans. No. 9 $\neq -\infty, -\infty$

10. $-\infty$

Section 11.3

4. $\frac{1}{18}$

5. $-\frac{1}{18}$

6. (a) 0.75

(b) 0.323

(c) 0.442

7. (a) $f(a+h) = 5(a+h)^2 - 5(a+h) - 1$

$\Rightarrow 5a^2 + 10ah + 5h^2 - 5a - 5h - 1$

(b)

(b) $10a + 5h - 5$

(c) 45

Section 11.4

1. $f'(x) = 2$

$f'(5) = 2$

$f'(0) = 2$

$f'(-6) = 2$

2. $f'(x) = -6x - 5$

$f'(-8) = 43$

$f'(\frac{7}{2}) = -47$

$f'(6)$

3. $f'(x) = \frac{11}{2\sqrt{x}}$

$f'(4) = \frac{11}{4}$

$f'(0) = \text{B. Undefined}$

$f'(-4) = \text{B. Undefined}$

4. $y = \frac{1}{20}x + 5$

5. $y = -\frac{4}{49}x - \frac{8}{7}$

6. slope (a) = $-\frac{7}{25}$

(b) $y = -\frac{7}{25}x + \frac{14}{5}$

7. (a) 3

(b) $y = 3x + 3$

section 11.5

7. $\frac{12x^{7/2} - 6x^2 - 35}{2x^{7/2}}$

8. $6x^{-3/2}$

9. $-15^{2/3}$

10. $y = 8x + 1$

11. (a) 397

(c) 477

(b) 77

(d) 957

11.6

1. $80x^3 - 45x^2 + 8$

2. $-45x^8 + 6x^5 - 5x^4 + 180x^3 - 9$

3. $2(6x^3 + 7x^2)(18x^2 + 14x)$

4. $\frac{43}{(6x+1)^2}$

5. $\frac{x^2 + 16x - 44}{(x+8)^2}$

8

Section 11.7

1. 12.

2. 544

3. $-8x^3 - 48x^2 - 96x - 64$
• $-2x^3 + 10$

4. $12(2x+3)^5$

5. $\frac{60x}{117649(x^2+1)^7}$

6. $-\frac{25}{2}(-10x+2)(-5x^2+2x)^{3/2}$

7. $\frac{64x}{\sqrt{8x^2+5}}$

8. $3(x+1)^2(x+4)^5 + 5(x+4)^4(x+1)^3$

9. $20x^{1/2}(4x+2)^4 + 16(2x+1)^5 \cdot x^{-1/2}$

10. $\frac{10(2t-5)^4(t+3) - (2t-5)^5}{(t+3)^2}$

11. $\frac{2(-21t^2 - 2t - 252)}{(7x-2)^9}$

12. $\frac{-6c+12}{189}$

Section 11.8

1. $-16e^{-16x}$

2. $16e^{2x}$

3. e^{x^4}

4. $24e^{4x^2-4} \cdot x$

5. $\frac{1}{2(x+3)}$

6. $\frac{2(4x^2-3)}{2x-3} + 8x \ln(2x-3)$

7. $\frac{2e^{2x}x - 2e^{-2x}x - e^{2x} - e^{-2x}}{x^2}$

8. $5^x \ln(5)$

9. y_x

10. $y = 35x + 3$

11. (a) $f'(t) = 160 \cdot 0.115 e^{0.155t}$

rate = $160 \cdot 0.115$

(b) rate = $160 \cdot 0.115$

(c) 1201

section 11.9

6. A. 0

2. $x = 0, 3$

A. Yes $\lim_{x \rightarrow 7} f(x) = 0$

7. $x = -4$

8. Option B

x-values $\neq -3, 2$