

**Ch 4 MC Practice****Multiple Choice**

Identify the choice that best completes the statement or answers the question.

- \_\_\_\_\_ 1. Find the general solution of the differential equation below and check the result by differentiation.

$$\frac{dQ}{du} = -24u^7$$

- a.  $Q(u) = -3u^8 + 1$
- b.  $Q(u) = -3u^8$
- c.  $Q(u) = -168u^6$
- d.  $Q(u) = -3u^8 + C$
- e.  $Q(u) = -168u^6 + C$

- \_\_\_\_\_ 2. Find the indefinite integral  $\int (-8t + 7)dt$  .

- a.  $-8t^2 + 7t + C$
- b.  $-4t^2 + 7t$
- c.  $-4t^2 + 7t + C$
- d.  $-8$
- e. none of the above

- \_\_\_\_\_ 3. Find the indefinite integral  $\int \sqrt[13]{x^8} dx$ .

- a.  $\frac{8}{13}x^{21} + C$
- b.  $\frac{21}{13}x^{13/21} + C$
- c.  $\frac{8}{21}x^{8/21} + C$
- d.  $\frac{13}{8}x^{21} + C$
- e.  $\frac{13}{21}x^{21/13} + C$

- \_\_\_\_\_ 4. Find the indefinite integral and check the result by differentiation.

$$\int \frac{3z^2 + 12z - 9}{z^4} dz$$

- a.  $-\frac{3}{z} + \frac{12}{z^2} + \frac{9}{z^3} + C$   
b.  $-\frac{3}{z} - \frac{6}{z^2} + \frac{3}{z^3}$   
c.  $\frac{3}{z} - \frac{6}{z^2} + \frac{3}{z^3} + C$   
d.  $-\frac{3}{z} + \frac{6}{z^2} + \frac{3}{z^3}$   
e.  $-\frac{3}{z} - \frac{6}{z^2} + \frac{3}{z^3} + C$

- \_\_\_\_\_ 5. An evergreen nursery usually sells a certain shrub after 4 years of growth and shaping. The growth rate during those 4 years is approximated by  $\frac{dh}{dt} = 2.5t + 6$ , where  $t$  is the time in years and  $h$  is the height in centimeters. The seedlings are 15 centimeters tall when planted ( $t = 0$ ). Find the height after  $t$  years.

- a.  $h(t) = 1.25t^2 + 21t$   
b.  $h(t) = 1.25t^2 + 6t + 15$   
c.  $h(t) = 1.25t + 15$   
d.  $h(t) = 2.5t^2 + 6t + 15$   
e.  $h(t) = 2.5t + 21$

- \_\_\_\_\_ 6. A ball is thrown vertically upwards from a height of 5 ft with an initial velocity of 40 ft per second. How high will the ball go? Note that the acceleration of the ball is given by  $a(t) = -32$  feet per second per second.

- a. 23.7500 ft  
b. 30.0000 ft  
c. 70.0000 ft  
d. 80.8000 ft  
e. 80.0000 ft

- \_\_\_\_\_ 7. The maker of an automobile advertises that it takes 12 seconds to accelerate from 30 kilometers per hour to 85 kilometers per hour. Assuming constant acceleration, compute the acceleration in meters per second per second. Round your answer to three decimal places.

- a. 1.528 m/sec<sup>2</sup>  
b. 2.662 m/sec<sup>2</sup>  
c. 2.865 m/sec<sup>2</sup>  
d. 3.194 m/sec<sup>2</sup>  
e. 1.273 m/sec<sup>2</sup>

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- \_\_\_\_\_ 8. Use left endpoints and 10 rectangles to find the approximation of the area of the region between the graph of the function  $4x^2 - x - 1$  and the  $x$ -axis over the interval  $[4, 14]$ . Round your answer to the nearest integer.
- a. 2925
  - b. 3325
  - c. 3000
  - d. 3250
  - e. 3125
- \_\_\_\_\_ 9. Find the limit.

$$\lim_{n \rightarrow \infty} \sum_{i=1}^n \left( \frac{10i}{n} \right) \left( \frac{8}{n} \right)$$

- a. 20
- b. 18
- c. 36
- d. 80
- e. 40

- \_\_\_\_\_ 10. Write the following limit as a definite integral on the interval  $[2, 5]$ , where  $c_i$  is any point in the  $i$ th subinterval.

$$\lim_{|\Delta x| \rightarrow 0} \sum_{i=1}^n (-7c_i + 2)\Delta x_i$$

a.  $\int_2^5 (-7x^2 + 2x) dx$

b.  $\int_2^5 \left(-\frac{7}{2}x^2 - 2x\right) dx$

c.  $\int_2^5 (-7x + 2) dx$

d.  $\int_5^2 (-7x + 2) dx$

e.  $\int_2^5 (-7x - 2) dx$

\_\_\_\_\_ 11. Write the limit  $\lim_{|\Delta x| \rightarrow 0} \sum_{i=1}^n 4c_i(7-c_i)^2 \Delta x_i$ , as a definite integral on the interval  $[0,8]$  where  $c_i$  is any point in the  $i^{\text{th}}$  subinterval.

a.  $\int 4x(7-x)^8 dx$

b.  $\int_0^8 4x^2(7-x)^8 dx$

c.  $\int 4c_i(7-c_i)^2 \Delta x_i$

d.  $\int_0^8 4x(7-x)^2 dx$

e.  $\int_0^{c_i} 4c_i(7-c_i)^2 \Delta x_i$

\_\_\_\_\_ 12. Write the limit  $\lim_{|\Delta| \rightarrow 0} \sum_{i=1}^n \left( \frac{6}{c_i^2} \right) \Delta x_i$ , as a definite integral on the interval  $[8, 10]$ , where  $c_i$  is any point in the  $i^{\text{th}}$  subinterval.

a.  $\int_{10}^8 \frac{6}{x^2} dx$

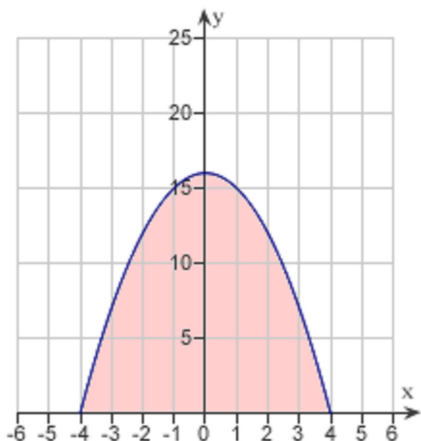
b.  $\int_0^8 \frac{6}{x^2} dx$

c.  $\int_0^2 \frac{6}{x^2} dx$

d.  $\int_0^{10} \frac{6}{x^2} dx$

e.  $\int_8^{10} \frac{6}{x^2} dx$

- \_\_\_\_\_ 13. The graph of the function  $f(x) = 16 - x^2$  is given below. Which of the following definite integrals yields the area of the shaded region?



- a.  $\int_0^{16} (16 - x^2) dx$
- b.  $\int_{-4}^0 (16 - x^2) dx$
- c.  $\int_0^4 (16 - x^2) dx$
- d.  $\int_{-16}^{16} (16 - x^2) dx$
- e.  $\int_{-4}^4 (16 - x^2) dx$

- \_\_\_\_\_ 14. Sketch the region whose area is given by the definite integral and then use a geometric formula to evaluate the integral.

$$\int_1^4 2s \, ds$$

- a. 30  
b. 15  
c. 4  
d. 34  
e. -17
- \_\_\_\_\_ 15. Sketch the region whose area is given by the definite integral and then use a geometric formula to evaluate the integral.

$$\int_0^5 (6t+1) \, dt$$

- a. -158  
b. 12  
c. 80  
d. 82  
e. -160
- \_\_\_\_\_ 16. Sketch the region whose area is given by the definite integral and then use a geometric formula to evaluate the integral.

$$\int_{-1}^1 (1-|u|) \, du$$

- a. -1  
b. 1  
c. 2  
d. 4  
e. 15



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\_\_\_\_ 17. Evaluate the integral.

$$\int_7^6 -24x \, dx$$

given,

$$\int_6^7 x^3 \, dx = \frac{1105}{4},$$

$$\int_6^7 x^2 \, dx = \frac{127}{3},$$

$$\int_6^7 x \, dx = \frac{13}{2},$$

$$\int_6^7 dx = 1.$$

- a. -156
- b. 156
- c. 1,016
- d. 24
- e. 6,630

\_\_\_\_ 18. Evaluate the integral.

$$\int_5^6 (-12u^3 - 2u) du$$

given,

$$\int_5^6 x^3 dx = \frac{671}{4},$$

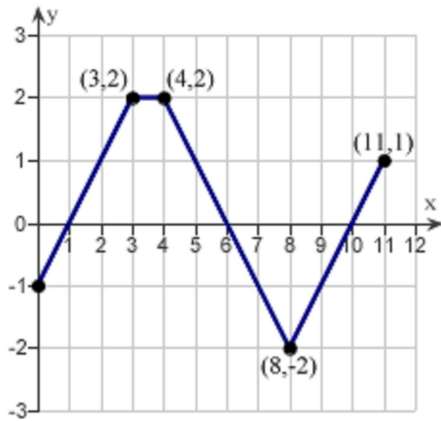
$$\int_5^6 x^2 dx = \frac{91}{3},$$

$$\int_5^6 x dx = \frac{11}{2},$$

$$\int_5^6 dx = 1.$$

- a. -65
- b. -2377
- c. -66
- d. -2024
- e. -2025

- \_\_\_\_\_ 19. The graph of  $f$  consists of line segments, as shown in the figure. Evaluate the definite integral  $\int_0^{11} f(x) dx$  using geometric formulas.



- a. 4  
b. 3  
c. 1  
d. 2  
e. 5
- \_\_\_\_\_ 20. Evaluate the definite integral of the algebraic function.

$$\int_3^6 (5u + 4) du$$

Use a graphing utility to verify your results.

- a. 148.5  
b. 12  
c. 79.5  
d. 159  
e. 15

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\_\_\_\_ 21. Evaluate the definite integral  $\int_2^4 \frac{6}{u^3} du$ . Use a graphing utility to verify your results.

- a.  $\frac{9}{8}$
- b.  $\frac{3}{8}$
- c.  $\frac{3}{32}$
- d.  $\frac{1}{16}$
- e.  $\frac{9}{16}$

\_\_\_\_ 22. Evaluate the definite integral of a function  $\int_0^1 u^{\frac{3}{2}} du$ . Use a graphing utility to verify your results.

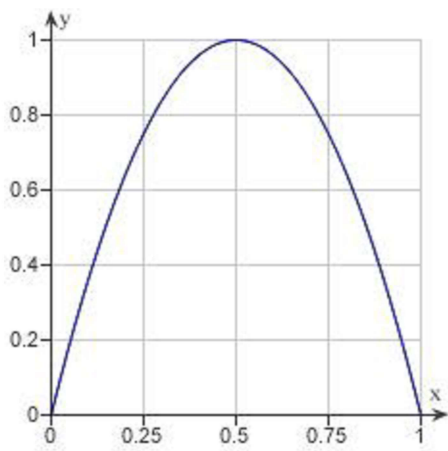
- a.  $\frac{3}{4}$
- b.  $\frac{9}{7}$
- c.  $\frac{7}{8}$
- d.  $\frac{2}{5}$
- e.  $\frac{5}{6}$

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\_\_\_ 23. Determine the area of the given region.

$$y = 4x(1 - x)$$



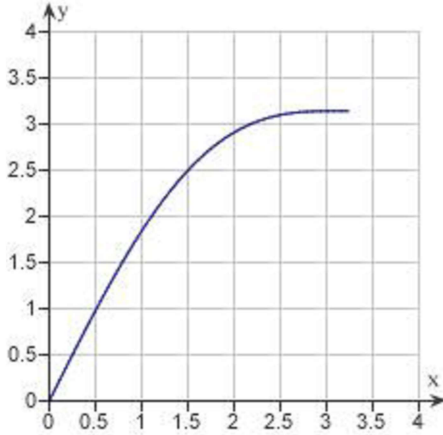
- a.  $\frac{3}{7}$
- b.  $\frac{2}{5}$
- c.  $\frac{2}{3}$
- d.  $\frac{2}{9}$
- e.  $\frac{10}{3}$

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\_\_\_\_ 24. Determine the area of the given region.

$$y = x + \sin x, 0 \leq x \leq \pi$$



- a.  $0.5\pi^2 + 2$
- b.  $2\pi^2 + 1$
- c.  $0.5\pi^2 + 5$
- d.  $0.5\pi^2 + 3$
- e.  $0.5\pi^2 + 1$

\_\_\_\_ 25. Find the average value of the function  $f(x) = 48 - 12x^2$  over the interval  $-5 \leq x \leq 5$ .

- a. -152
- b. -52
- c. 148
- d. 248
- e. -252

- \_\_\_\_\_ 26. Find the average value of the function over the given interval and all values  $t$  in the interval for which the function equals its average value.

$$f(t) = \frac{t^2 + 4}{t^2}, 1 \leq t \leq 5$$

Use a graphing utility to verify your results.

- The average is  $\frac{9}{5}$  and the point at which the function is equal to its mean value is  $\sqrt{5}$ .
- The average is  $\frac{9}{5}$  and the point at which the function is equal to its mean value is  $\sqrt{5}$  and  $-\sqrt{5}$ .
- The average is  $\frac{9}{20}$  and the point at which the function is equal to its mean value is  $-\sqrt{5}$ .
- The average is  $\frac{9}{20}$  and the point at which the function is equal to its mean value is  $\sqrt{5}$ .
- The average is  $\frac{9}{20}$  and the point at which the function is equal to its mean value is  $\sqrt{5}$  and  $-\sqrt{5}$ .

- \_\_\_\_\_ 27. Find the average value of  $f(x) = \frac{5(x^2 + 5)}{x^2}$  on the interval  $[1, 3]$ .

- $\frac{40}{3}$
- 35
- $\frac{25}{3}$
- $\frac{80}{3}$
- 40

- \_\_\_\_\_ 28. The volume  $V$  in liters of air in the lungs during a five-second respiratory cycle is approximated by the model  $V = 0.1724t + 0.1523t^2 - 0.0377t^3$  where  $t$  is the time in seconds. Approximate the average volume of air in the lungs during one cycle. Round your answer to four decimal places.
- a. 1.8776 liter
  - b. 2.0094 liter
  - c. 0.4004 liter
  - d. 0.8148 liter
  - e. 0.5220 liter

- \_\_\_\_\_ 29. Find  $F'(x)$  given

$$F(x) = \int_x^{x+3} (10t + 1) dt.$$

- a.  $F'(x) = 1 + 10t$
- b.  $F'(x) = 1 + 10x$
- c.  $F'(x) = 30$
- d.  $F'(x) = 48 + 30x^2$
- e.  $F'(x) = 48 + 30t$

- \_\_\_\_\_ 30. Find  $F'(x)$  given

$$F(x) = \int_{-2x}^{2x} s^2 ds.$$

- a.  $F'(x) = 16x^2$
- b.  $F'(x) = 4x^2$
- c.  $F'(x) = 8x^2$
- d.  $F'(x) = 0$
- e.  $F'(x) = 24x^2$



\_\_\_\_\_ 31. Find the indefinite integral  $\int (1+4t)^3 dt$ .

a.  $\frac{(1+4t)^4}{12} + C$

b.  $4(1+4t)^4 + C$

c.  $\frac{(1+4t)^4}{4} + C$

d.  $\frac{(1+4t)^4}{3} + C$

e.  $\frac{(1+4t)^4}{16} + C$

\_\_\_\_\_ 32. Find the indefinite integral  $\int t^4(4+t^5)^3 dt$ .

a.  $\frac{(4+t^5)^4}{4} + C$

b.  $\frac{(4+t^5)^4}{20} + C$

c.  $20(4+t^5)^4 + C$

d.  $\frac{(4+t^4)^4}{20} + C$

e.  $\frac{(4+t^5)^4}{10} + C$

\_\_\_\_\_ 33. Find the indefinite integral  $\int z^3 \sqrt{2+z^4} dz$ .

a.  $\frac{(2+z^4)^{\frac{3}{2}}}{8} + C$

b.  $\frac{2(2+z^4)^{\frac{3}{2}}}{12} + C$

c.  $\frac{(2+z^4)^{\frac{3}{2}}}{12} + C$

d.  $\frac{2(2+z^4)^{\frac{2}{3}}}{12} + C$

e.  $\frac{2(2+z^4)^{\frac{5}{2}}}{20} + C$

\_\_\_\_\_ 34. Find the indefinite integral of the following function and check the result by differentiation.

$$\int \frac{6t^5}{t^6+1} dt$$

a.  $\frac{1}{2} \sqrt{t^6+1} + C$

b.  $2\sqrt{t^6+1} + C$

c.  $\frac{1}{2} \sqrt{t^5+1} + C$

d.  $\sqrt{t^6+1} + C$

e.  $2\sqrt{t^5+1} + C$

\_\_\_\_ 35. Solve the differential equation.

$$\frac{df}{dx} = 16x + \frac{5x}{\sqrt{9-x^2}}$$

- a.  $f(x) = 8x^2 - 5\sqrt{9-x^2} + C$
- b.  $f(x) = 8x^2 - \frac{5}{2}\sqrt{9-x^2} + C$
- c.  $f(x) = 8x - 5\sqrt{9-x^2} + C$
- d.  $f(x) = 8x^2 + 5\sqrt{9-x^2} + C$
- e.  $f(x) = 8x^2 - \frac{5}{\sqrt{9-x^2}} + C$

\_\_\_\_ 36. Find the indefinite integral of the following function.

$$\int \cos 2s \, ds$$

- a.  $\cos 2s + C$
- b.  $\sin 2s + C$
- c.  $\frac{\sin 2s}{3} + C$
- d.  $2 \sin 2s + C$
- e.  $\frac{\sin 2s}{2} + C$

\_\_\_\_ 37. Find the indefinite integral  $\int 7x^6 \sin x^7 \, dx$ .

- a.  $\frac{-\cos x^8}{8} + C$
- b.  $\sin x^7 + C$
- c.  $-\cos x^7 + C$
- d.  $-\cos x^6 + C$
- e.  $\frac{-\cos x^7}{7} + C$

\_\_\_\_ 38. Find the indefinite integral of the following function.

$$\int \frac{\sin u}{\cos^3 u} du$$

- a.  $\frac{(\cos u)^{-2}}{2} + C$
- b.  $\frac{(\sin u)^{-2}}{3} + C$
- c.  $\frac{(\cos u)^{-3}}{2} + C$
- d.  $\frac{(\cos u)^{-2}}{3} + C$
- e.  $\frac{(\sin u)^{-2}}{2} + C$

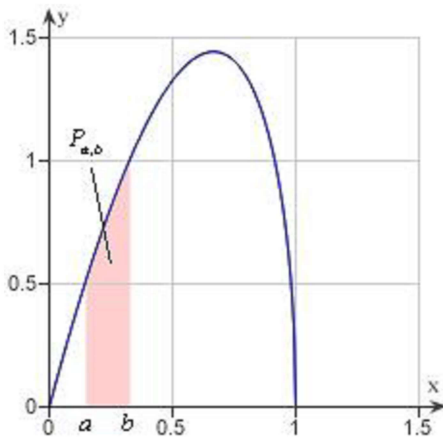
\_\_\_\_ 39. Evaluate the following definite integral.

$$\int_1^4 \frac{1}{\sqrt{4u+7}} du$$

Use a graphing utility to check your answer.

- a.  $\frac{\sqrt{23} + \sqrt{11}}{4}$
- b.  $\frac{\sqrt{11} - \sqrt{23}}{2}$
- c.  $\frac{\sqrt{23} + \sqrt{11}}{2}$
- d.  $\frac{\sqrt{23} - \sqrt{11}}{4}$
- e.  $\frac{\sqrt{23} - \sqrt{11}}{2}$

- \_\_\_\_\_ 40. The sales  $S$  (in thousands of units) of a seasonal product are given by the model  $S = 73.36 + 45.74 \sin \frac{\pi t}{6}$  where  $t$  is the time in months, with  $t = 1$  corresponding to January. Find the average sales for the first quarter ( $0 \leq t \leq 3$ ). Round your answer to three decimal places.
- 131.598 thousand units
  - 92.442 thousand units
  - 74.859 thousand units
  - 102.479 thousand units
  - 92.924 thousand units
- \_\_\_\_\_ 41. The oscillating current in an electrical circuit is  $I = 2 \sin(60\pi t) + \cos(120\pi t)$  where  $I$  is measured in amperes and  $t$  is measured in seconds. Find the average current for the time interval  $0 \leq t \leq \frac{1}{60}$ . Round your answer to three decimal places.
- 2.273 amps
  - 1.273 amps
  - 0.637 amps
  - 2.546 amps
  - 1.637 amps
- \_\_\_\_\_ 42. Suppose that the probability that a person will remember between  $100a\%$  and  $100b\%$  of material learned in an experiment is  $P_{a,b} = \int_a^b \frac{15}{4} x \sqrt{1-x} dx$  where  $x$  represents the proportion remembered. Determine from the figure below, the probability that a randomly chosen individual will recall between 50% and 55% of the material? Express your answer as a percent rounded to three decimal places.



- 39.000%
- 6.800%
- 1.600%
- 47.800%
- 85.300%

## Ch 4 MC Practice Answer Section

### MULTIPLE CHOICE

1. ANS: D                   PTS: 1                   DIF: Easy                   REF: Section 4.1  
OBJ: Calculate the general solution of a differential equation                   MSC: Skill
2. ANS: C                   PTS: 1                   DIF: Easy                   REF: Section 4.1  
OBJ: Evaluate the indefinite integral of a function                   MSC: Skill
3. ANS: E                   PTS: 1                   DIF: Easy                   REF: Section 4.1  
OBJ: Evaluate the indefinite integral of a function                   MSC: Skill
4. ANS: E                   PTS: 1                   DIF: Medium                   REF: Section 4.1  
OBJ: Evaluate the indefinite integral of a function                   MSC: Skill
5. ANS: B                   PTS: 1                   DIF: Easy                   REF: Section 4.1  
OBJ: Solve a differential equation in applications                   MSC: Application
6. ANS: B                   PTS: 1                   DIF: Medium                   REF: Section 4.1  
OBJ: Solve differential equations related to position/velocity/acceleration  
MSC: Application
7. ANS: E                   PTS: 1                   DIF: Medium                   REF: Section 4.1  
OBJ: Calculate the acceleration                   MSC: Application
8. ANS: E                   PTS: 1                   DIF: Medium                   REF: Section 4.2  
OBJ: Approximate the area bounded by a function using rectangles  
MSC: Skill
9. ANS: E                   PTS: 1                   DIF: Medium                   REF: Section 4.2  
OBJ: Evaluate an infinite limit of a sum                   MSC: Skill
10. ANS: C                   PTS: 1                   DIF: Easy                   REF: Section 4.3  
OBJ: Evaluate a definite integral by the limit definition                   MSC: Skill
11. ANS: D                   PTS: 1                   DIF: Easy                   REF: Section 4.3  
OBJ: Write a limit as a definite integral on an interval                   MSC: Skill
12. ANS: E                   PTS: 1                   DIF: Easy                   REF: Section 4.3  
OBJ: Write a limit as a definite integral on an interval                   MSC: Skill
13. ANS: E                   PTS: 1                   DIF: Easy                   REF: Section 4.3  
OBJ: Write a definite integral for a bounded region                   MSC: Skill
14. ANS: B                   PTS: 1                   DIF: Easy                   REF: Section 4.3  
OBJ: Evaluate a definite integral geometrically                   MSC: Skill
15. ANS: C                   PTS: 1                   DIF: Easy                   REF: Section 4.3  
OBJ: Evaluate a definite integral geometrically                   MSC: Skill
16. ANS: B                   PTS: 1                   DIF: Easy                   REF: Section 4.3  
OBJ: Evaluate a definite integral geometrically                   MSC: Skill
17. ANS: B                   PTS: 1                   DIF: Easy                   REF: Section 4.3  
OBJ: Evaluate the definite integral of a function                   MSC: Skill
18. ANS: D                   PTS: 1                   DIF: Easy                   REF: Section 4.3  
OBJ: Evaluate the definite integral of a function                   MSC: Skill
19. ANS: D                   PTS: 1                   DIF: Medium                   REF: Section 4.3  
OBJ: Evaluate a definite integral geometrically                   MSC: Skill

20. ANS: C           PTS: 1           DIF: Medium       REF: Section 4.4  
OBJ: Evaluate the definite integral of a function       MSC: Skill
21. ANS: E           PTS: 1           DIF: Easy         REF: Section 4.4  
OBJ: Evaluate the definite integral of a function       MSC: Skill
22. ANS: D           PTS: 1           DIF: Medium       REF: Section 4.4  
OBJ: Evaluate the definite integral of a function       MSC: Skill
23. ANS: C           PTS: 1           DIF: Medium       REF: Section 4.4  
OBJ: Calculate the area bounded by a function         MSC: Application
24. ANS: A           PTS: 1           DIF: Medium       REF: Section 4.4  
OBJ: Calculate the area bounded by a function         MSC: Application
25. ANS: B           PTS: 1           DIF: Easy         REF: Section 4.4  
OBJ: Calculate the average value of a function over a given interval  
MSC: Skill
26. ANS: A           PTS: 1           DIF: Medium       REF: Section 4.4  
OBJ: Calculate the average value of a function over a given interval and identify the point at which it occurs  
MSC: Skill
27. ANS: A           PTS: 1           DIF: Easy         REF: Section 4.4  
OBJ: Calculate the average value of a function over a given interval  
MSC: Skill
28. ANS: E           PTS: 1           DIF: Medium       REF: Section 4.4  
OBJ: Calculate the average value of a function in applications   MSC: Application
29. ANS: C           PTS: 1           DIF: Medium       REF: Section 4.4  
OBJ: Calculate the derivative of an integral using the Second Fundamental Theorem of Calculus  
MSC: Skill
30. ANS: A           PTS: 1           DIF: Medium       REF: Section 4.4  
OBJ: Calculate the derivative of an integral using the Second Fundamental Theorem of Calculus  
MSC: Skill
31. ANS: E           PTS: 1           DIF: Easy         REF: Section 4.5  
OBJ: Evaluate the indefinite integral of a function using substitution  
MSC: Skill
32. ANS: B           PTS: 1           DIF: Easy         REF: Section 4.5  
OBJ: Evaluate the indefinite integral of a function using substitution  
MSC: Skill
33. ANS: B           PTS: 1           DIF: Medium       REF: Section 4.5  
OBJ: Evaluate the indefinite integral of a function using substitution  
MSC: Skill
34. ANS: B           PTS: 1           DIF: Medium       REF: Section 4.5  
OBJ: Evaluate the indefinite integral of a function using substitution  
MSC: Skill
35. ANS: A           PTS: 1           DIF: Medium       REF: Section 4.5  
OBJ: Solve a differential equation                    MSC: Skill
36. ANS: E           PTS: 1           DIF: Easy         REF: Section 4.5  
OBJ: Evaluate the indefinite integral of a function using substitution  
MSC: Skill
37. ANS: C           PTS: 1           DIF: Easy         REF: Section 4.5  
OBJ: Evaluate the indefinite integral of a function using substitution  
MSC: Skill

38. ANS: A                   PTS: 1                   DIF: Medium           REF: Section 4.5  
OBJ: Evaluate the indefinite integral of a function using substitution  
MSC: Skill
39. ANS: E                   PTS: 1                   DIF: Medium           REF: Section 4.5  
OBJ: Evaluate the definite integral of a function using substitution  
MSC: Skill
40. ANS: D                   PTS: 1                   DIF: Medium           REF: Section 4.5  
OBJ: Evaluate the definite integral of a function in applications  
MSC: Application
41. ANS: B                   PTS: 1                   DIF: Medium           REF: Section 4.5  
OBJ: Evaluate the definite integral of a function in applications  
MSC: Application
42. ANS: B                   PTS: 1                   DIF: Difficult         REF: Section 4.5  
OBJ: Evaluate the definite integral of a function in applications  
MSC: Application