Integration Practice (11708640)

Due: Fri, May 31, 2019 12:00 AM MST

Question 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

1. Question Details SCalcET8 4.9.004. [3803294]

Find the most general antiderivative of the function. (Check your answer by differentiation. Use C for the constant of the antiderivative.)

$f(x) = 6x^5 - 8x^4 - 9x^2$

$F(x) =$

2. Question Details SCalcET8 4.9.005. [3804250]

Find the most general antiderivative of the function. (Check your answer by differentiation. Use C for the constant of the antiderivative.)

$f(x) = x(12x + 4)$

$F(x) =$

3. Question Details SCalcET8 4.9.007. [3804459]

Find the most general antiderivative of the function. (Check your answer by differentiation. Use C for the constant of the antiderivative.)

$f(x) = 8x^{3/5} + 3x^{-4/5}$

$F(x) =$

4. Question Details SCalcET8 4.9.012. [3804286]

Find the most general antiderivative of the function. (Check your answer by differentiation. Use C for the constant of the antiderivative.)

$f(x) = \sqrt[7]{x^2} + x\sqrt{x}$

$F(x) =$

5. Question Details SCalcET8 4.9.013. [3803839]

Find the most general antiderivative of the function. (Check your answer by differentiation. Use C for the constant of the antiderivative. Remember to use absolute values where appropriate.)

$f(x) = \frac{2}{5} - \frac{6}{x}, \quad x > 0$

$F(x) =$

6. Question Details SCalcET8 4.9.015. [3803875]

Find the most general antiderivative of the function. (Check your answer by differentiation. Use C for the constant of the antiderivative.)

$g(t) = \frac{7 + t + t^2}{\sqrt{t}}$

$G(t) =$

7. Question Details SCalcET8 4.9.016. [3803468]

Find the most general antiderivative of the function. (Check your answer by differentiation. Use C for the constant of the antiderivative.)

$r(\theta) = \sec(\theta)\tan(\theta) - 4e^{\theta}$

$R(\theta) =$

8. Question Details SCalcET8 4.9.018. [3804068]

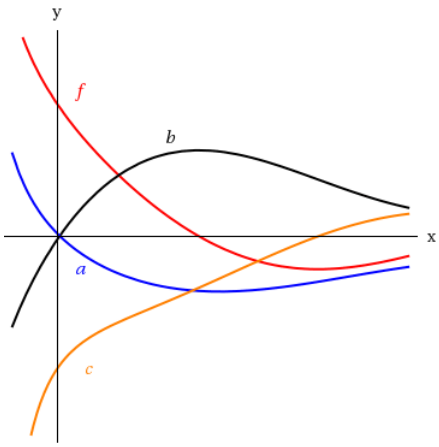
Find the most general antiderivative of the function. (Check your answer by differentiation. Use C for the constant of the antiderivative.)

$$g(v) = 7\cos(v) - \frac{6}{\sqrt{1 - v^2}}$$

$G(v) =$

9. Question Details SCalcET8 4.9.052. [3803454]

The graph of a function f is shown. Which graph is an antiderivative of f?



- a
- b
- c

10. Question Details SCalcET8 4.9.059. [3804431]

A particle is moving with the given data. Find the position of the particle.

$$v(t) = \sin(t) - \cos(t), \quad s(0) = 7$$

$s(t) =$

11. Question Details SCalcET8 4.9.069.MI.SA. [3804075]

This question has several parts that must be completed sequentially. If you skip a part of the question, you will not receive any points for the skipped part, and you will not be able to come back to the skipped part.

Tutorial Exercise

A stone was dropped off a cliff and hit the ground with a speed of 152 ft/s. What is the height of the cliff? (Use 32 ft/s^2 for the acceleration due to gravity.)

12. Question Details SCalcET8 4.9.071.MI.SA. [3804543]

This question has several parts that must be completed sequentially. If you skip a part of the question, you will not receive any points for the skipped part, and you will not be able to come back to the skipped part.

Tutorial Exercise

A company estimates that the marginal cost (in dollars per item) of producing x items is $1.82 - 0.002x$. If the cost of producing one item is $564, find the cost of producing 100 items.

13. Question Details SCalcET8 4.9.074. [3804457]

A car is traveling at 50 mi/h when the brakes are fully applied, producing a constant deceleration of 32 ft/s^2. What is the distance covered before the car comes to a stop? (Round your answer to one decimal place.)

[ ] ft

14. Question Details SCalcET8 5.5.007. [3803682]

Evaluate the indefinite integral. (Use C for the constant of integration.)

$$\int x\sqrt{5 - x^2}\, dx$$

15. Question Details SCalcET8 5.5.009. [3803902]

Evaluate the indefinite integral. (Use C for the constant of integration.)

$$\int (1 - 4x)^5\, dx$$

16. Question Details SCalcET8 5.5.010. [3803302]

Evaluate the indefinite integral. (Use C for the constant of integration.)

$$\int \sin(t)\sqrt{1 + \cos(t)}\, dt$$

17. Question Details SCalcET8 5.5.013.MI. [3803499]

Evaluate the indefinite integral. (Remember to use absolute values where appropriate. Use C for the constant of integration.)

$$\int \frac{dx}{1 - 6x}$$

18. Question Details SCalcET8 5.5.021.MI. [3803849]

Evaluate the indefinite integral. (Use C for the constant of integration.)

$$\int \frac{(\ln(x))^{48}}{x}\, dx$$

19. Question Details SCalcET8 5.5.023. [3803819]

Evaluate the indefinite integral. (Use C for the constant of integration.)

$$\int \sec^2(\theta)\tan^8(\theta)\, d\theta$$

20. Question Details SCalcET8 5.5.028. [3803703]

Evaluate the indefinite integral. (Use C for the constant of integration.)

$$\int e^{\cos(33t)} \sin(33t)\, dt$$

21. Question Details SCalcET8 5.5.044.MI.SA. [3803515]

This question has several parts that must be completed sequentially. If you skip a part of the question, you will not receive any points for the skipped part, and you will not be able to come back to the skipped part.

Tutorial Exercise

Evaluate the indefinite integral.

$$\int \frac{x^8}{1 + x^{18}}\, dx$$

22. Question Details SCalcET8 5.3.019. [3804004]

Evaluate the integral.

$$\int_7^9 (x^2 + 2x - 5)\, dx$$

23. Question Details SCalcET8 5.3.023. [3803459]

Evaluate the integral.

$$\int_1^4 \sqrt{x}\, dx$$

24. Question Details SCalcET8 5.3.025. [3803438]

Evaluate the integral.

$$\int_{\pi/6}^{\pi} \sin(\theta)\, d\theta$$

25. Question Details SCalcET8 5.3.035. [3803860]

Evaluate the integral.

$$\int_1^2 \frac{v^5 + 3v^6}{v^4}\, dv$$

26. Question Details SCalcET8 5.3.037. [3804183]

Evaluate the integral.

$$\int_0^1 (7x^e + 9e^x)\, dx$$

27. Question Details SCalcET8 5.3.043. [3803466]

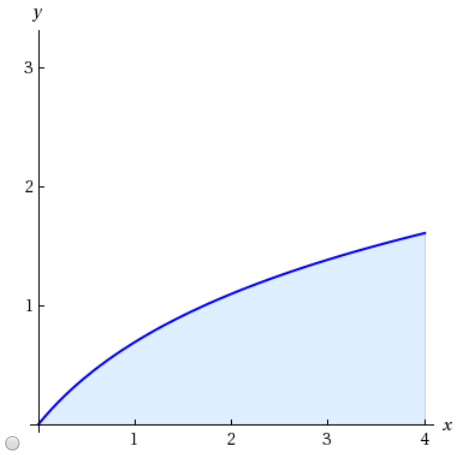
Use a graph to give a rough estimate of the area of the region that lies beneath the given curve. Then find the exact area.

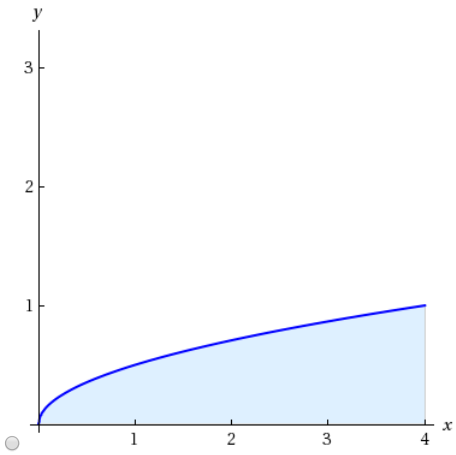
$y = 5\sin(x), \quad 0 \le x \le \pi$

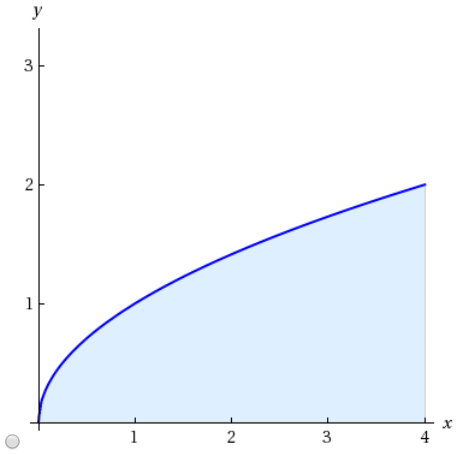
28. Question Details SCalcET8 5.3.045. [3804310]

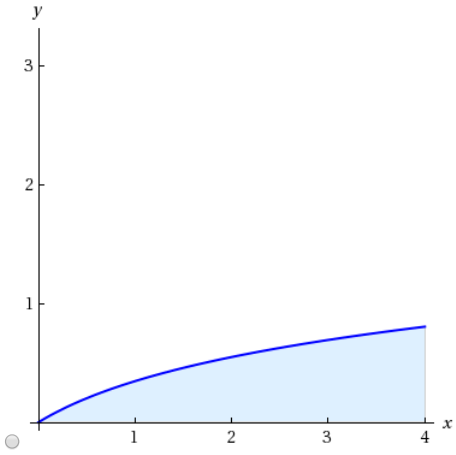
Sketch the region enclosed by the given curves. (A graphing calculator is recommended.)

$y = \sqrt{x}, \quad y = 0, \quad x = 4$







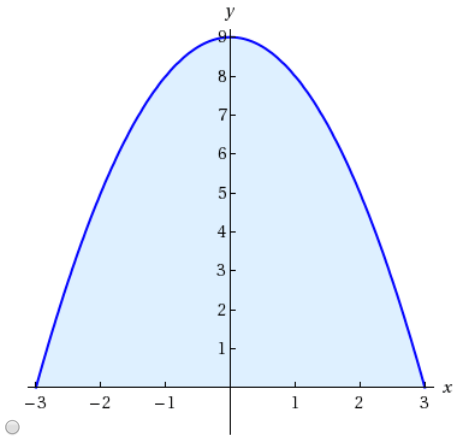


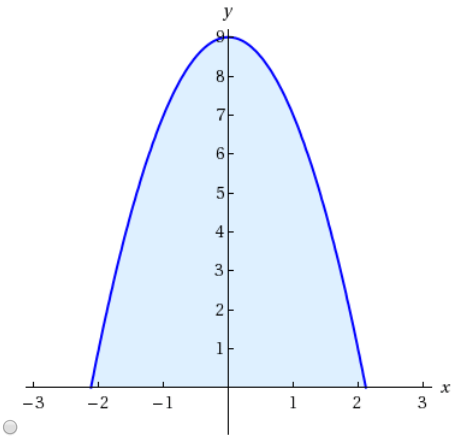
Calculate its area.

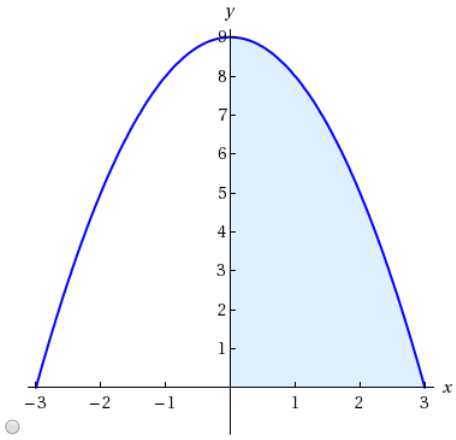
29. Question Details SCalcET8 5.3.047. [3803509]

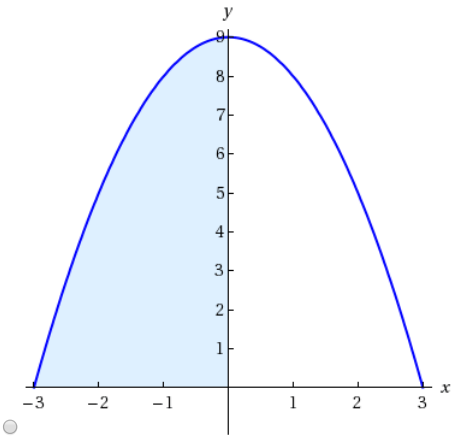
Sketch the region enclosed by the given curves. (A graphing calculator is recommended.)

$y = 9 - x^2, \quad y = 0$









Calculate its area.

30. Question Details SCalcET8 5.4.021. [3803990]

Evaluate the integral.

$$\int_{-2}^{3} (x^2 - 3)\, dx$$

31. Question Details SCalcET8 5.4.023. [3803447]

Evaluate the integral.

$$\int_{-2}^{0} \left(\frac{1}{5}t^5 + \frac{1}{2}t^4 - t\right) dt$$

32. Question Details SCalcET8 5.4.027. [3803519]

Evaluate the integral.

$$\int_0^{\pi} (5e^x + 6\sin(x))dx$$

33. Question Details SCalcET8 5.4.028. [3804257]

Evaluate the integral.

$$\int_1^4 \left(\frac{1}{x^2} - \frac{8}{x^3}\right) dx$$

34. Question Details SCalcET8 5.4.033. [3803944]

Evaluate the integral.

$$\int_1^4 \left(\frac{x}{2} - \frac{3}{x}\right) dx$$

35. Question Details SCalcET8 5.4.035. [3804163]

Evaluate the integral.

$$\int_0^1 (x^{11} + 11^x)dx$$

36. Question Details SCalcET8 5.4.051. [3997964]

If $w'(t)$ is the rate of growth of a child in pounds per year, what does $\int_7^{11} w'(t)dt$ represent?

- The change in the child's weight (in pounds) between the ages of 7 and 11.
- The child's weight at age 7.
- The child's weight at age 11.
- The child's initial weight at birth.
- The change in the child's age (in years) between the ages of 7 and 11.

37. Question Details SCalcET8 5.4.059. [3803817]

The velocity function (in meters per second) is given for a particle moving along a line.

$v(t) = 3t - 8, \quad 0 \le t \le 5$

(a) Find the displacement.

m

(b) Find the distance traveled by the particle during the given time interval.

m

38. Question Details SCalcET8 5.4.064. [3803456]

Water flows from the bottom of a storage tank at a rate of $r(t) = 200 - 4t$ liters per minute, where $0 \le t \le 50$. Find the amount of water that flows from the tank during the first 40 minutes.

liters

39. Question Details SCalcET8 5.4.067. [3804499]

The marginal cost of manufacturing x yards of a certain fabric is $C'(x) = 3 - 0.01x + 0.000012x^2$ (in dollars per yard). Find the increase in cost if the production level is raised from 2000 yards to 4000 yards.

$ [ ]

40. Question Details SCalcET8 5.5.082. [3804487]

A bacteria population starts with 350 bacteria and grows at a rate of $r(t) = (450.265)e^{1.12567t}$ bacteria per hour. How many bacteria will there be after three hours? (Round your answer to the nearest integer.)

[ ] bacteria

Assignment Details

Name (AID): **Integration Practice (11708640)**
Submissions Allowed: **5**
Category: **Homework**
Code:
Locked: **Yes**
Author: **Bird, Brian (** brian.bird@gccaz.edu **)**
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