PRINTABLE VERSION

Quiz 24

Question 1

Evaluate the definite integral: $\int_0^1 (3x - 6)\,\mathrm{d}x$

a) 3

b) $-\frac{21}{2}$

c) $-\frac{9}{2}$

d) -3

e) $-\frac{15}{2}$

Question 2

Evaluate the definite integral: $\int_1^4 2\sqrt{x}\,\mathrm{d}x$

a) $\frac{62}{5}$

b) $\frac{28}{3}$

c) $\frac{124}{5}$

d) 4

e) 2

Question 3

Evaluate the definite integral: $\int_{-2}^{0} (x+6)(x-8)\,dx$

a) $-\frac{292}{3}$

b) $-\frac{268}{3}$

c) $\frac{296}{3}$

d) -8

e) $\frac{152}{3}$

Question 4

Evaluate the definite integral: $\int_{0}^{1} \left(9\,x^{3/4} - 10\,\sqrt{x}\right) dx$

a) $\frac{248}{21}$

b) -1

c) $-\frac{32}{21}$

d) 0

e) $\frac{8}{15}$

Question 5

Evaluate the definite integral: $\int_1^2 4x\left(x^2+3\right)dx$

a) 40

b) $\frac{264}{5}$

c) -3

d) 33

e) $\frac{64}{3}$

Question 6

Evaluate the definite integral: $\int_0^{\frac{\pi}{4}} 7\sec^2(x)\,dx$

a) -14

b) 7

c) -7

d) 14

e) $\frac{7}{2}$

Question 7

Evaluate the definite integral: $\int_0^{\frac{\pi}{3}} \left(\frac{6}{\pi} - 2\sec^2(x)\right) dx$

a) $14/3$

b) $-2\sqrt{3} + 2$

c) $-14/3$

d) $2\sqrt{3} + 2$

e) $2\sqrt{3} - 2$

Question 8

Evaluate the definite integral: $\int_{-1}^{4} |x - 1| \, dx$

a) 1

b) $\frac{13}{2}$

c) $\frac{25}{2}$

d) $-\frac{85}{6}$

e) $\frac{5}{2}$

Question 9

Find $\int_0^3 f(x)\,dx$ given that $f(x) = \begin{cases} 3x+1 & 0 \le x \le 1 \\ 5-x & 1 < x \le 3 \end{cases}$

a) 1

b) $\frac{21}{2}$

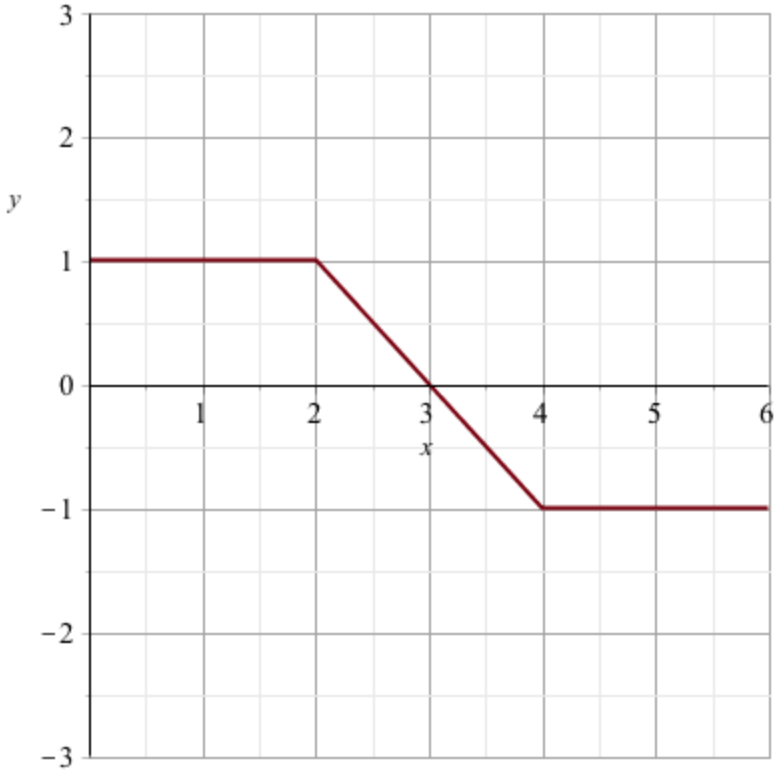
c) $\frac{17}{2}$

d) $\frac{33}{2}$

e) $-\frac{3}{2}$

Question 10

The graph of $f(x)$ is given below and $F(x) = \int_0^x f(t)\,dt.$



Find $F(5)$.

a) 0

b) 5

c) -1

d) 1

e) 8