Name_____

Calculus Practice: Indefinite Integrals 2a

Evaluate each indefinite integral.

1) $\displaystyle \int \frac{88x^{\frac{5}{6}}}{6}\, dx$

   A) $\dfrac{44x^{\frac{11}{6}}}{3}+C$ B) $\dfrac{44x}{3}+C$

   C) $8x^{\frac{11}{6}}+C$ D) $8x^{\frac{5}{6}}+C$

2) $\displaystyle \int \frac{7x^{\frac{2}{5}}}{5}\, dx$

   A) $\dfrac{7x^{\frac{7}{5}}}{5}+C$ B) $x^{\frac{2}{5}}+C$

   C) $\dfrac{7x}{5}+C$ D) $x^{\frac{7}{5}}+C$

3) $\displaystyle \int \left(\frac{26x^{\frac{8}{5}}}{5} + \frac{7x^{\frac{1}{6}}}{6} \right) dx$

   A) $\dfrac{191x}{30}+C$

   B) $2x^{\frac{8}{5}} + x^{\frac{1}{6}} + C$

   C) $2x^{\frac{13}{5}} + x^{\frac{7}{6}} + C$

   D) $\dfrac{26x^{\frac{13}{5}}}{5} + \dfrac{7x^{\frac{7}{6}}}{6} + C$

4) $\displaystyle \int \frac{65x^{\frac{10}{3}} + 102x^{\frac{7}{10}} + 162x^{\frac{1}{5}}}{15}\, dx$

   A) $x^{\frac{13}{3}} + 4x^{\frac{17}{10}} + 9x^{\frac{6}{5}} + C$

   B) $x^{\frac{10}{3}} + 4x^{\frac{7}{10}} + 9x^{\frac{1}{5}} + C$

   C) $\dfrac{13x^{\frac{13}{3}}}{3} + \dfrac{34x^{\frac{17}{10}}}{5} + \dfrac{54x^{\frac{6}{5}}}{5} + C$

   D) $\dfrac{329x}{15}+C$

5) $\displaystyle \int \left(\frac{108x^{\frac{7}{5}}}{5} + \frac{96x^{\frac{7}{9}}}{9} + \frac{16x^{\frac{1}{3}}}{3} \right) dx$

   A) $\dfrac{188x}{5}+C$

   B) $9x^{\frac{12}{5}} + 6x^{\frac{16}{9}} + 4x^{\frac{4}{3}} + C$

   C) $9x^{\frac{7}{5}} + 6x^{\frac{7}{9}} + 4x^{\frac{1}{3}} + C$

   D) $\dfrac{108x^{\frac{12}{5}}}{5} + \dfrac{32x^{\frac{16}{9}}}{3} + \dfrac{16x^{\frac{4}{3}}}{3} + C$

6) $\displaystyle \int \left(-\frac{105x^{\frac{7}{8}}}{8} - \frac{35x^{\frac{3}{4}}}{4} \right) dx$

   A) $-7x^{\frac{15}{8}} - 5x^{\frac{7}{4}} + C$

   B) $-7x^{\frac{7}{8}} - 5x^{\frac{3}{4}} + C$

   C) $-\dfrac{105x^{\frac{15}{8}}}{8} - \dfrac{35x^{\frac{7}{4}}}{4} + C$

   D) $-\dfrac{175x}{8}+C$

7) $\displaystyle\int \frac{60x^{\frac{7}{3}}}{3}\,dx$

A) $6x^{\frac{10}{3}} + C$ B) $20x^{\frac{10}{3}} + C$

C) $20x + C$ D) $6x^{\frac{7}{3}} + C$

8) $\displaystyle\int \frac{3\left(11\sqrt[7]{x^4} + 15\sqrt[7]{x^2} + 16\sqrt[7]{x}\right)}{7}\,dx$

A) $3x^{\frac{11}{7}} + 5x^{\frac{9}{7}} + 6x^{\frac{8}{7}} + C$

B) $\dfrac{33x^{\frac{11}{7}}}{7} + \dfrac{45x^{\frac{9}{7}}}{7} + \dfrac{48x^{\frac{8}{7}}}{7} + C$

C) $18x + C$

D) $3x^{\frac{4}{7}} + 5x^{\frac{2}{7}} + 6x^{\frac{1}{7}} + C$

9) $\displaystyle\int -\frac{50\sqrt[9]{x}}{9}\,dx$

A) $-5x^{\frac{10}{9}} + C$ B) $-5x^{\frac{1}{9}} + C$

C) $-\dfrac{50x^{\frac{10}{9}}}{9} + C$ D) $-\dfrac{50x}{9} + C$

10) $\displaystyle\int \frac{8\left(-5\sqrt[7]{x^3} + \sqrt[7]{x}\right)}{7}\,dx$

A) $-\dfrac{32x}{7} + C$

B) $-4x^{\frac{10}{7}} + x^{\frac{8}{7}} + C$

C) $-\dfrac{40x^{\frac{10}{7}}}{7} + \dfrac{8x^{\frac{8}{7}}}{7} + C$

D) $-4x^{\frac{3}{7}} + x^{\frac{1}{7}} + C$

11) $\displaystyle\int \frac{297\sqrt[6]{x^5} + 208\sqrt[9]{x^4}}{18}\,dx$

A) $\dfrac{505x}{18} + C$

B) $9x^{\frac{5}{6}} + 8x^{\frac{4}{9}} + C$

C) $\dfrac{33x^{\frac{11}{6}}}{2} + \dfrac{104x^{\frac{13}{9}}}{9} + C$

D) $9x^{\frac{11}{6}} + 8x^{\frac{13}{9}} + C$

12) $\displaystyle\int \frac{96\sqrt[7]{x^5} + 91\sqrt[10]{x^3}}{14}\,dx$

A) $4x^{\frac{12}{7}} + 5x^{\frac{13}{10}} + C$

B) $4x^{\frac{5}{7}} + 5x^{\frac{3}{10}} + C$

C) $\dfrac{48x^{\frac{12}{7}}}{7} + \dfrac{13x^{\frac{13}{10}}}{2} + C$

D) $\dfrac{187x}{14} + C$

13) $\displaystyle\int \frac{2079\sqrt[6]{x^5} + 196\sqrt[9]{x^5} - 720\sqrt[7]{x}}{126}\,dx$

A) $\dfrac{33x^{\frac{11}{6}}}{2} + \dfrac{14x^{\frac{14}{9}}}{9} - \dfrac{40x^{\frac{8}{7}}}{7} + C$

B) $9x^{\frac{5}{6}} + x^{\frac{5}{9}} - 5x^{\frac{1}{7}} + C$

C) $9x^{\frac{11}{6}} + x^{\frac{14}{9}} - 5x^{\frac{8}{7}} + C$

D) $\dfrac{1555x}{126} + C$

14) $\displaystyle\int \frac{2\left(63\sqrt[9]{x^5} + 13\sqrt[9]{x^4}\right)}{9}\,dx$

A) $9x^{\frac{5}{9}} + 2x^{\frac{4}{9}} + C$

B) $9x^{\frac{14}{9}} + 2x^{\frac{13}{9}} + C$

C) $\dfrac{152x}{9} + C$

D) $14x^{\frac{14}{9}} + \dfrac{26x^{\frac{13}{9}}}{9} + C$

-2-

Name_____

Calculus Practice: Indefinite Integrals 2a

Evaluate each indefinite integral.

1) $\int \dfrac{88x^{\frac{5}{6}}}{6}\,dx$

  A) $\dfrac{44x^{\frac{11}{6}}}{3} + C$ B) $\dfrac{44x}{3} + C$

 *C) $8x^{\frac{11}{6}} + C$ D) $8x^{\frac{5}{6}} + C$

2) $\int \dfrac{7x^{\frac{2}{5}}}{5}\,dx$

  A) $\dfrac{7x^{\frac{7}{5}}}{5} + C$ B) $x^{\frac{2}{5}} + C$

  C) $\dfrac{7x}{5} + C$ *D) $x^{\frac{7}{5}} + C$

3) $\int \left(\dfrac{26x^{\frac{8}{5}}}{5} + \dfrac{7x^{\frac{1}{6}}}{6} \right) dx$

  A) $\dfrac{191x}{30} + C$

  B) $2x^{\frac{8}{5}} + x^{\frac{1}{6}} + C$

 *C) $2x^{\frac{13}{5}} + x^{\frac{7}{6}} + C$

  D) $\dfrac{26x^{\frac{13}{5}}}{5} + \dfrac{7x^{\frac{7}{6}}}{6} + C$

4) $\int \dfrac{65x^{\frac{10}{3}} + 102x^{\frac{7}{10}} + 162x^{\frac{1}{5}}}{15}\,dx$

 *A) $x^{\frac{13}{3}} + 4x^{\frac{17}{10}} + 9x^{\frac{6}{5}} + C$

  B) $x^{\frac{10}{3}} + 4x^{\frac{7}{10}} + 9x^{\frac{1}{5}} + C$

  C) $\dfrac{13x^{\frac{13}{3}}}{3} + \dfrac{34x^{\frac{17}{10}}}{5} + \dfrac{54x^{\frac{6}{5}}}{5} + C$

  D) $\dfrac{329x}{15} + C$

5) $\int \left(\dfrac{108x^{\frac{7}{5}}}{5} + \dfrac{96x^{\frac{7}{9}}}{9} + \dfrac{16x^{\frac{1}{3}}}{3} \right) dx$

  A) $\dfrac{188x}{5} + C$

 *B) $9x^{\frac{12}{5}} + 6x^{\frac{16}{9}} + 4x^{\frac{4}{3}} + C$

  C) $9x^{\frac{7}{5}} + 6x^{\frac{7}{9}} + 4x^{\frac{1}{3}} + C$

  D) $\dfrac{108x^{\frac{12}{5}}}{5} + \dfrac{32x^{\frac{16}{9}}}{3} + \dfrac{16x^{\frac{4}{3}}}{3} + C$

6) $\int \left(-\dfrac{105x^{\frac{7}{8}}}{8} - \dfrac{35x^{\frac{3}{4}}}{4} \right) dx$

 *A) $-7x^{\frac{15}{8}} - 5x^{\frac{7}{4}} + C$

  B) $-7x^{\frac{7}{8}} - 5x^{\frac{3}{4}} + C$

  C) $-\dfrac{105x^{\frac{15}{8}}}{8} - \dfrac{35x^{\frac{7}{4}}}{4} + C$

  D) $-\dfrac{175x}{8} + C$

7) $\int \dfrac{60x^{\frac{7}{3}}}{3}\,dx$

*A) $6x^{\frac{10}{3}} + C$ B) $20x^{\frac{10}{3}} + C$

C) $20x + C$ D) $6x^{\frac{7}{3}} + C$

8) $\int \dfrac{3\left(11\sqrt[7]{x^4} + 15\sqrt[7]{x^2} + 16\sqrt[7]{x}\right)}{7}\,dx$

*A) $3x^{\frac{11}{7}} + 5x^{\frac{9}{7}} + 6x^{\frac{8}{7}} + C$

B) $\dfrac{33x^{\frac{11}{7}}}{7} + \dfrac{45x^{\frac{9}{7}}}{7} + \dfrac{48x^{\frac{8}{7}}}{7} + C$

C) $18x + C$

D) $3x^{\frac{4}{7}} + 5x^{\frac{2}{7}} + 6x^{\frac{1}{7}} + C$

9) $\int -\dfrac{50\sqrt[9]{x}}{9}\,dx$

*A) $-5x^{\frac{10}{9}} + C$ B) $-5x^{\frac{1}{9}} + C$

C) $-\dfrac{50x^{\frac{10}{9}}}{9} + C$ D) $-\dfrac{50x}{9} + C$

10) $\int \dfrac{8\left(-5\sqrt[7]{x^3} + \sqrt[7]{x}\right)}{7}\,dx$

A) $-\dfrac{32x}{7} + C$

*B) $-4x^{\frac{10}{7}} + x^{\frac{8}{7}} + C$

C) $-\dfrac{40x^{\frac{10}{7}}}{7} + \dfrac{8x^{\frac{8}{7}}}{7} + C$

D) $-4x^{\frac{3}{7}} + x^{\frac{1}{7}} + C$

11) $\int \dfrac{297\sqrt[6]{x^5} + 208\sqrt[9]{x^4}}{18}\,dx$

A) $\dfrac{505x}{18} + C$

B) $9x^{\frac{5}{6}} + 8x^{\frac{4}{9}} + C$

C) $\dfrac{33x^{\frac{11}{6}}}{2} + \dfrac{104x^{\frac{13}{9}}}{9} + C$

*D) $9x^{\frac{11}{6}} + 8x^{\frac{13}{9}} + C$

12) $\int \dfrac{96\sqrt[7]{x^5} + 91\sqrt[10]{x^3}}{14}\,dx$

*A) $4x^{\frac{12}{7}} + 5x^{\frac{13}{10}} + C$

B) $4x^{\frac{5}{7}} + 5x^{\frac{3}{10}} + C$

C) $\dfrac{48x^{\frac{12}{7}}}{7} + \dfrac{13x^{\frac{13}{10}}}{2} + C$

D) $\dfrac{187x}{14} + C$

13) $\int \dfrac{2079\sqrt[6]{x^5} + 196\sqrt[9]{x^5} - 720\sqrt[7]{x}}{126}\,dx$

A) $\dfrac{33x^{\frac{11}{6}}}{2} + \dfrac{14x^{\frac{14}{9}}}{9} - \dfrac{40x^{\frac{8}{7}}}{7} + C$

B) $9x^{\frac{5}{6}} + x^{\frac{5}{9}} - 5x^{\frac{1}{7}} + C$

*C) $9x^{\frac{11}{6}} + x^{\frac{14}{9}} - 5x^{\frac{8}{7}} + C$

D) $\dfrac{1555x}{126} + C$

14) $\int \dfrac{2\left(63\sqrt[9]{x^5} + 13\sqrt[9]{x^4}\right)}{9}\,dx$

A) $9x^{\frac{5}{9}} + 2x^{\frac{4}{9}} + C$

*B) $9x^{\frac{14}{9}} + 2x^{\frac{13}{9}} + C$

C) $\dfrac{152x}{9} + C$

D) $14x^{\frac{14}{9}} + \dfrac{26x^{\frac{13}{9}}}{9} + C$

-2-