Calculus Practice: Indefinite Integrals 5b

Evaluate each indefinite integral.

1) $\int \frac{1}{x\sqrt{x^2 - 25}}\,dx$

2) $\int \frac{1}{16 + x^2}\,dx$

3) $\int \frac{1}{25 + x^2}\,dx$

4) $\int \frac{1}{\sqrt{25 - x^2}}\,dx$

5) $\int \frac{1}{4 + x^2}\,dx$

6) $\int \frac{1}{9 + x^2}\,dx$

7) $\int \frac{1}{\sqrt{16 - x^2}}\,dx$

8) $\int \frac{1}{\sqrt{9 - x^2}}\,dx$

9) $\int \frac{1}{x\sqrt{x^2-9}}\,dx$

10) $\int \frac{1}{1+x^2}\,dx$

11) $\int \frac{1}{\sqrt{1-x^2}}\,dx$

12) $\int \frac{1}{x\sqrt{x^2-1}}\,dx$

13) $\int \frac{1}{x\sqrt{x^2-4}}\,dx$

14) $\int \frac{1}{x\sqrt{x^2-16}}\,dx$

15) $\int \frac{1}{\sqrt{4-x^2}}\,dx$

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Evaluate each indefinite integral.

1) $\int \frac{1}{x\sqrt{x^2 - 25}}\,dx$

$\frac{1}{5} \cdot \sec^{-1} \frac{|x|}{5} + C$

2) $\int \frac{1}{16 + x^2}\,dx$

$\frac{1}{4} \cdot \tan^{-1} \frac{x}{4} + C$

3) $\int \frac{1}{25 + x^2}\,dx$

$\frac{1}{5} \cdot \tan^{-1} \frac{x}{5} + C$

4) $\int \frac{1}{\sqrt{25 - x^2}}\,dx$

$\sin^{-1} \frac{x}{5} + C$

5) $\int \frac{1}{4 + x^2}\,dx$

$\frac{1}{2} \cdot \tan^{-1} \frac{x}{2} + C$

6) $\int \frac{1}{9 + x^2}\,dx$

$\frac{1}{3} \cdot \tan^{-1} \frac{x}{3} + C$

7) $\int \frac{1}{\sqrt{16 - x^2}}\,dx$

$\sin^{-1} \frac{x}{4} + C$

8) $\int \frac{1}{\sqrt{9 - x^2}}\,dx$

$\sin^{-1} \frac{x}{3} + C$

9) $\int \frac{1}{x\sqrt{x^2-9}}\,dx$

$\frac{1}{3} \cdot \sec^{-1} \frac{|x|}{3} + C$

10) $\int \frac{1}{1+x^2}\,dx$

$\tan^{-1} x + C$

11) $\int \frac{1}{\sqrt{1-x^2}}\,dx$

$\sin^{-1} x + C$

12) $\int \frac{1}{x\sqrt{x^2-1}}\,dx$

$\sec^{-1} |x| + C$

13) $\int \frac{1}{x\sqrt{x^2-4}}\,dx$

$\frac{1}{2} \cdot \sec^{-1} \frac{|x|}{2} + C$

14) $\int \frac{1}{x\sqrt{x^2-16}}\,dx$

$\frac{1}{4} \cdot \sec^{-1} \frac{|x|}{4} + C$

15) $\int \frac{1}{\sqrt{4-x^2}}\,dx$

$\sin^{-1} \frac{x}{2} + C$