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! For an efficient use of these tables, first read [HowTo.pdf](#).

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**T3.37B.** Integrands involving trigonometric functions and square roots of algebraic functions on the intervals  $(1, \infty)$  and  $(y, \infty)$ .

$$1. \int_1^\infty \frac{\sin(ax) dx}{\sqrt{x^2 - 1}} = \frac{\pi}{2} J_0(a), \quad a > 0.$$

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$$2. \int_1^\infty \frac{\cos(ax) dx}{\sqrt{x^2 - 1}} = -\frac{\pi}{2} Y_0(a).$$

$$3. \int_y^\infty \frac{\sin(ax) dx}{\sqrt{x - y}} = \sqrt{\frac{\pi}{2a}} [\sin(ay) + \cos(ay)], \quad a > 0, y > 0.$$

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$$4. \int_y^\infty \frac{\cos(ax) dx}{\sqrt{x - y}} = \sqrt{\frac{\pi}{2a}} [\cos(ay) - \sin(ay)], \quad a > 0, y > 0.$$

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