

## PROBLEM SET 21: SEPARABLE DIFFERENTIAL EQUATIONS

Note: Most of the problems were taken from the textbook [1].

**Problem 1.** *Solve the differential equations.*

$$a) \frac{dy}{dx} = x\sqrt{y};$$

**Problem 2.** *Find the solutions of the next differential equations with specified initial values.*

$$a) \frac{dy}{dx} = \frac{x \sin x}{y}, \quad y(0) = -1;$$

### REFERENCES

- [1] J. Stewart: *Single Variable Calculus* 8th Edition, Cengage Learning, Boston 2015.