Handout 3: The Roots of All Evil

1. Solve for the missing variable:
$$x^2 + 9 = 18$$
.

6. Solve for the missing variable:
$$\sqrt{x+7} = \sqrt{7-x}$$
.

2. Solve for this missing variable:
$$\sqrt[4]{x^4} = 12$$
.

7. Solve for the missing variable:
$$\frac{\sqrt{x}}{3\sqrt{x}} = \sqrt[6]{2x+1}.$$

3. Solve for the missing variable:
$$\sqrt{x+2} = 5$$
.

8. Solve for the missing variable:
$$\sqrt{(x+2)^2} = \sqrt{2+x}$$
.

4. Solve for the missing variable:
$$3 - \sqrt{x} = \sqrt{x} - 5$$
.

9. Solve for the missing variable:
$$\frac{3x^3}{x} = \frac{1}{9x}.$$

5. Solve for the missing variable:
$$2\sqrt{x-3} = \sqrt{x}$$
.

10. Solve for the missing variable:
$$\sqrt{\frac{x^2}{2}} = \frac{4}{\sqrt{x^3}}$$
.

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