

Name: _____

Date: _____

Learning Goal 5.4

Solve radical equations, identifying extraneous roots and restrictions to the domain.

1. State any restrictions on the variable, if any. Solve.

a.

$$1 + \sqrt{\frac{7x}{3}} = 8$$

b.

$$5 - \sqrt{2x} = -1$$

c.

$$\sqrt{4-x} = -2$$

d.

$$\sqrt{2x-5} = \sqrt{x-7}$$

2. Josh is shipping several small musical instruments in a cube-shaped box, including a drumstick which just fits diagonally in the box. Determine the formula for the length, d , in centimetres, of the drumstick in terms of the area, A , in square centimetres, of one face of the box. What is the area of one face of a cube shaped box that holds a drumstick of length 23.3 cm? Express your answer to the nearest square centimetre.