

A2.A.22: Solving Radicals 7: Solve radical equations

- 1 The number of dogs, D , housed at a county animal shelter is modeled by the function

$D = 4\sqrt{2M} + 50$, where M is the number of months the shelter has been open. How many months will it take for 74 dogs to be housed at the shelter?

- 2 The period of a pendulum (T), in seconds, is the length of time it takes for the pendulum to make one complete swing back and forth. The formula

$T = 2\pi\sqrt{\frac{L}{32}}$ gives the period T for a pendulum of length L in feet. If you want to build a grandfather clock with a pendulum that swings back and forth once every 3 seconds, how long, *to the nearest tenth of a foot*, would you make the pendulum?

- 3 A wrecking ball suspended from a chain is a type of pendulum. The relationship between the rate of speed of the ball, R , the mass of the ball, m , the length of the chain, L , and the force, F , is

$R = 2\pi\sqrt{\frac{mL}{F}}$. Determine the force, F , to the *nearest hundredth*, when $L = 12$, $m = 50$, and $R = 0.6$.

- 4 The lateral surface area of a right circular cone, s , is represented by the equation $s = \pi r\sqrt{r^2 + h^2}$, where r is the radius of the circular base and h is the height of the cone. If the lateral surface area of a large funnel is 236.64 square centimeters and its radius is 4.75 centimeters, find its height, *to the nearest hundredth of a centimeter*.

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Answer Section

1 ANS:
18

PTS: 2 REF: 080821b

2 ANS:
7.3

PTS: 2 REF: fall9923b

3 ANS:
65,797.36

PTS: 2 REF: 010323b

4 ANS:
15.13

PTS: 4 REF: 080528b