8.4 Warm-Up April 9, 2020

7. Water is pumped into an underground tank at a constant rate of 8 gallons per minute

for $0 \leq t \leq 3$ minutes.

Find and interpret the following in the context of the problem: 8×3.

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7.

Water leaks out of the tank at the rate of $\sqrt{t+1}$ gallons per minute, for $0 \leq t \leq 3$ minutes.

Find and interpret the following in the context of the problem: $\int_0^3 \sqrt{t+1}dt$.

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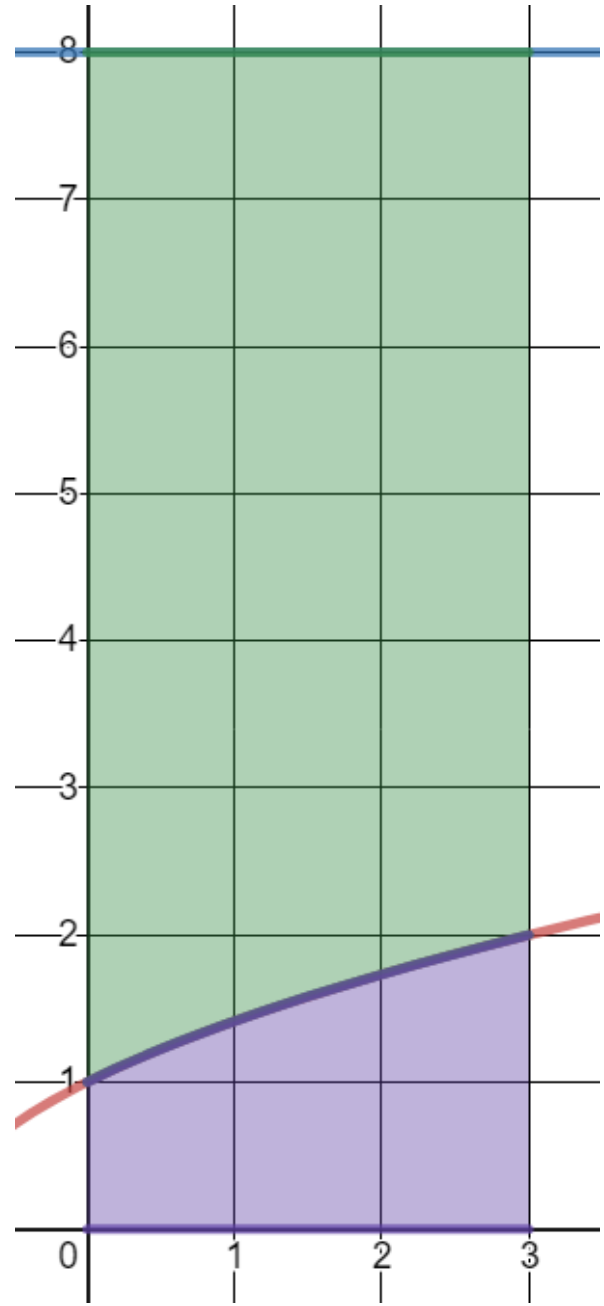
7. Water is pumped into an underground tank at a constant rate of 8 gallons per minute. Water leaks out of the tank at the rate of $\sqrt{t+1}$ gallons per minute, for $0 \leq t \leq 3$ minutes. At time $t = 0$, the tank contains 30 gallons of water.

How many gallons of water are in the tank at time $t = 3$ minutes?

8.4 Warm-Up April 9, 2020

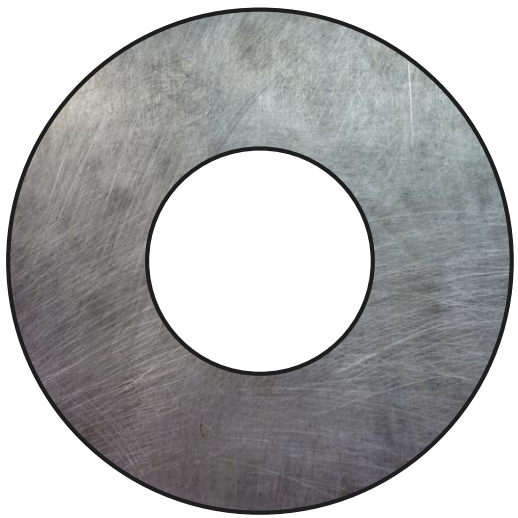
7. Water is pumped into an underground tank at a constant rate of 8 gallons per minute. Water leaks out of the tank at the rate of $\sqrt{t+1}$ gallons per minute, for $0 \le t \le 3$ minutes. At time $t = 0$, the tank contains 30 gallons of water. How many gallons of water are in the tank at time $t = 3$ minutes?



$$30 + 8 \times 3 - \int_0^3 \sqrt{t+1}\,dt$$

8.4 Continued Warm-Up April 9, 2020

Find the shaded area of each figure.



The radii of this washer are 2 and 5.

The area of the rectangle is 180 ft^2
the longer side length is 15 feet.