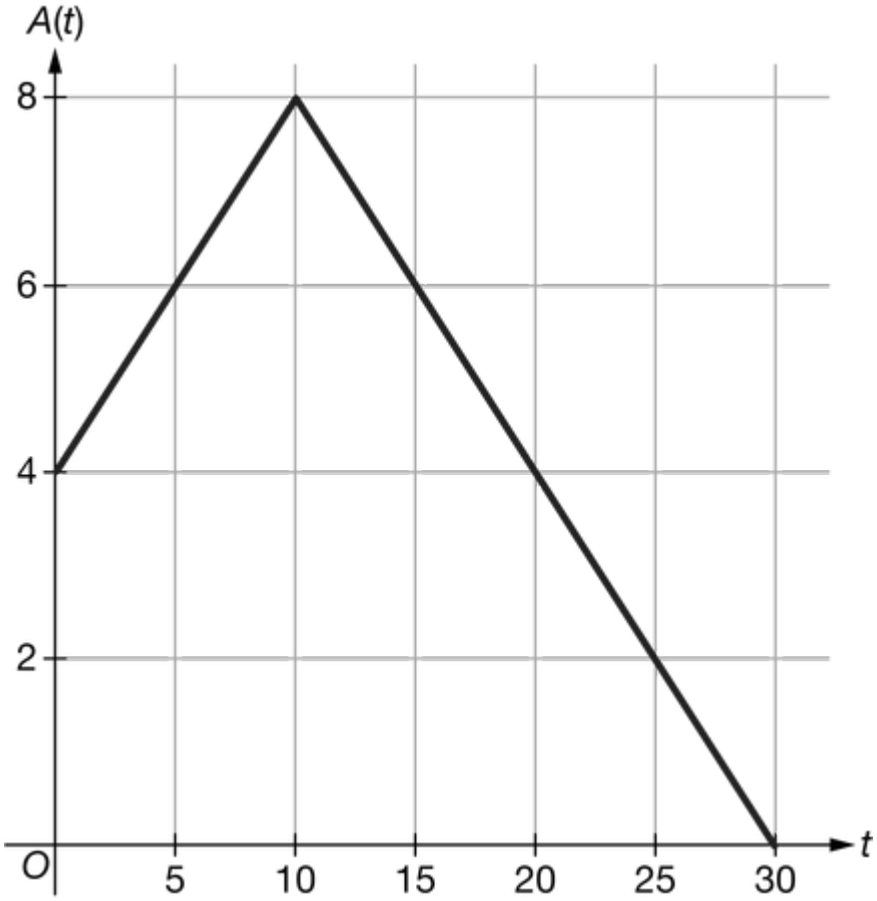
Wrap Up Accumulation

Name

1.



The rate at which ants arrive at a picnic is modeled by the function A, where $A(t)$ is measured in ants per minute and t is measured in minutes. The graph of A for $0 \leq t \leq 30$ is shown in the figure above. How many ants arrive at the picnic during the time interval $0 \leq t \leq 30$?

(A) 8

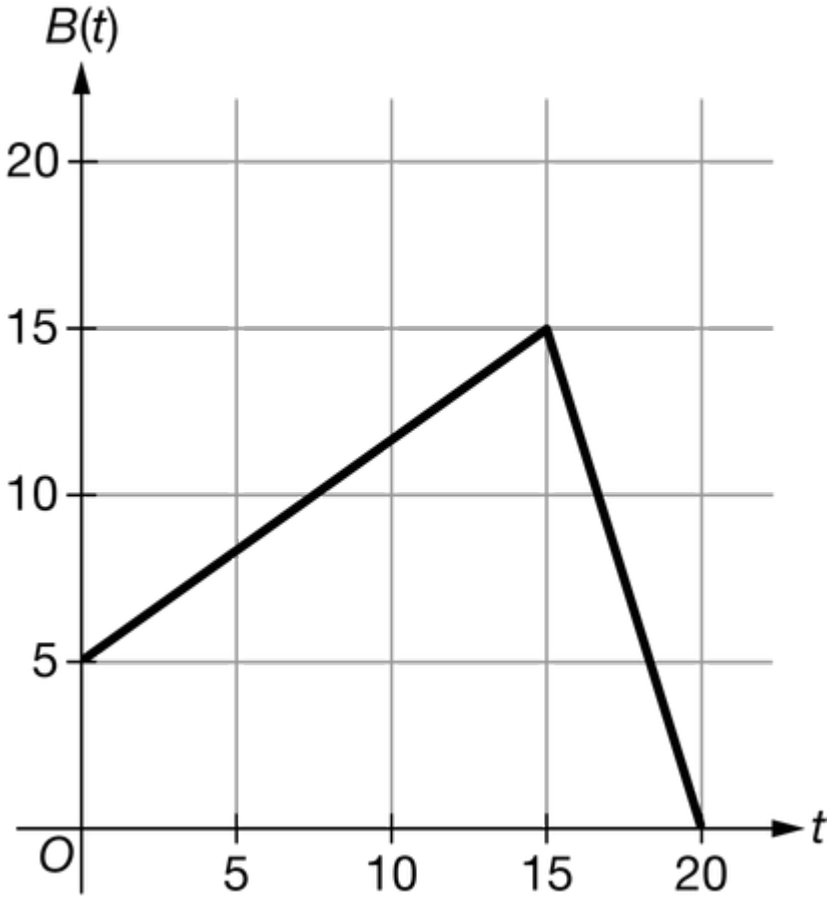
(B) 70

(C) 120

(D) 140

Wrap Up Accumulation

2.



The rate at which people arrive at a theater box office is modeled by the function B, where $B(t)$ is measured in people per minute and t is measured in minutes. The graph of B for $0 \leq t \leq 20$ is shown in the figure above. Which of the following is closest to the number of people that arrive at the box office during the time interval $0 \leq t \leq 20$?

(A) 15

(B) 38

(C) 150

(D) 188

3. A particle with velocity at any time t given by $v(t) = e^t$ moves in a straight line. How far does the particle move from $t = 0$ to $t = 2$?

Wrap Up Accumulation

(A) $e^2 - 1$

(B) $e - 1$

(C) $2e$

(D) e^2

(E) $\frac{e^3}{3}$

4. Snow is falling at a rate of $r(t)=2e^{-0.1t}$ inches per hour, where t is the time in hours since the beginning of the snowfall. Which of the following expressions gives the amount of snow, in inches, that falls from time $t = 0$ to time $t = 5$ hours?

(A) $2e^{-0.5} - 2$

(B) $0.2 - 0.2e^{-0.5}$

(C) $4 - 4e^{-0.5}$

(D) $20 - 20e^{-0.5}$