

$$n = \frac{18000}{1+8e^{-t}}$$

- (2)**

(4)

- (4)

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Solutions

1a.

$t = 0$	M1
$n = 2000$	M1

1b.

$3600 = \frac{18000}{1+8c^{-3}}$	M1
$1 + 8c^{-3} = 5$	M1
$c^{-3} = \frac{1}{2}$ $c^3 = 2$	M1
$c = \sqrt[3]{2}$	M1

1c.

$4000 = \frac{18000}{1+8c^{-t}}$	M1
$1 + 8c^{-t} = \frac{9}{2}$ $c^{-t} = \frac{7}{16}$	M1
$-t = \frac{\log(\frac{7}{16})}{\log \sqrt[3]{2}}$ $t = 3.758$ weeks	M1
$t = 25$ days	M1

