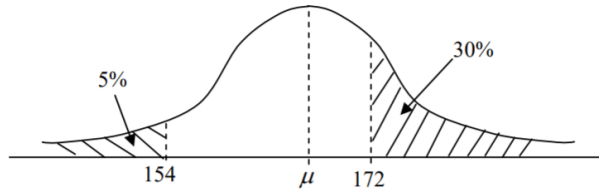


c. Obtain a second equation and hence find the value of μ and the value of σ . (4)

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

Solutions

1a.



Bell shaped, must have inflections	M1
154, 172 on axis.	M1
5% and 30%	M1

1b.

$P(X < 154) = 0.05$	M1
$\frac{154 - \mu}{\sigma}$	
$\frac{154 - \mu}{\sigma} = -1.6449$	M1
$\mu = 154 + 1.6449\sigma$	M1

1c.

$172 - \mu = 0.5244\sigma$	M1
Solving simultaneously with 'part b' equation	M1
$\sigma = 8.2976075... = 8.30$	M1
$\mu = 167.64873... = 168$	M1