

a. Find  $P(W < 224)$ . (3)

b. Find the value of  $w$  such that  $P(232 < W < w) = 0.20$  (4)

c. Find the probability that only one of the jars contains between 232 grams and  $w$  grams of coffee. (3)

This image shows a single page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, leaving small margins at the top and bottom. There are no vertical margin lines, text, or other markings on the page.

## Solutions

1a.

$P(W < 224) = P(Z < \frac{224-232}{5})$	<b>M1</b>
$= P(Z < -1.6)$	
$= 1 - 0.9452$	<b>M1</b>
$= 0.0548$	<b>M1</b>

1b.

$0.5 - 0.2 = 0.3$	<b>M1</b>
$\frac{w-232}{5} =$	<b>M1</b>
$\frac{w-232}{5} = 0.5244$	<b>M1</b>
$w = 234.622$	<b>M1</b>

1c.

$0.2 \times (1 - 0.2)$	<b>M1</b>
$2 \times 0.8 \times (1 - 0.8)$	<b>M1</b>
$= 0.32$	<b>M1</b>

