

(a)	$z_1 = \frac{170-150}{20} = 1 \quad z_2 = \frac{190-150}{20} = 2$ $P(z_1 < 1) = 0.8413 \quad P(z_2 < 2) = 0.9772$ $P(170 < x < 190) = 0.9772 - 0.8413$ $= 0.1359$	<p>Scale 10C (0, 3, 7, 10) <i>Low Partial Credit</i> Some attempt at standardising</p> <p><i>High Partial Credit</i> One correct z-score</p>
(b)	$P(\text{red}) = \frac{4}{13} \quad P(\text{blue}) = \frac{6}{13} \quad P(\text{green}) = \frac{3}{13}$ $P(\text{blue, red then red or green}) = \frac{6}{13} \times \frac{4}{12} \times \frac{6}{11}$ $= \frac{12}{143} = 0.0839$	<p>Scale 10C (0, 3, 7, 10) <i>Low Partial Credit</i> One correct probability</p> <p><i>High Partial Credit</i> Two correct probabilities and use of multiplication rule</p>
(c)	$ACCCCA = 2! \times 4! = 48$	<p>Scale 10C (0, 3, 7, 10) <i>Low Partial Credit</i> Some correct use of permutations</p> <p><i>High Partial Credit</i> 2! and 4! found</p>