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| **Topic 4: Statistics and Probability** | **Normal Distribution and Probability** | |
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| 1. The lengths of apple seeds from a tree at SkyTop Orchard are approximated by a normal distribution with a mean of 8 mm and a standard deviation of 0.5 mm.   A seed from this apple tree is chosen at random.   * 1. Calculate the probability that the length of the seed is less than 7.5 mm.   It is known that 25% of the seeds have a length greater than *k* mm.   * 1. Find the value of *k*.   For a seed of length *d* mm chosen at random,  (c) Find the value of *m.* | | (2 marks)  (2 marks)  (2 marks) |
| Mark scheme:  = 0.159      = 8.34  (c) | | (M1)  (A1)   (M1)  (A1)  (M1)  (A1) |