

8 **(i)** The variable X has the distribution $N(20, 9)$.

(a) Find $P(X > 25)$. **[1]**

(b) Given that $P(X > a) = 0.2$, find a . **[1]**

(c) Find b such that $P(20 - b < X < 20 + b) = 0.5$. **[3]**

(ii) The variable Y has the distribution $N(\mu, \frac{\mu^2}{9})$. Find $P(Y > 1.5\mu)$. **[3]**