

3E Finding the Mean or Standard Deviation

1. The random variable $X \sim N(\mu, 3^2)$. Given that $P(X > 20) = 0.2$, find the value of μ .
2. A machine makes metal sheets with width X cm, modelled as a normal distribution such that $X \sim N(50, \sigma^2)$.
 - a) Given that $P(X < 46) = 0.2119$, find the value of σ .

 - b) Find the 90th percentile of the widths

3. The random variable $X \sim N(\mu, \sigma^2)$. Given that $P(X > 35) = 0.025$ and $P(X < 15) = 0.1469$, find the values of μ and σ .