Use the geometric distribution, equation (5-6), with $p = .20$.

(a) $P(Y = 5) = .08192$.

(b) $P(Y \leq 4) = P(Y = 1) + P(Y = 2) + P(Y = 3) + P(Y = 4) = .5904$.

(c) Using equation (5-8), $EY = \frac{1}{p} = 5$.

(d) Using equation (5-9), $\text{Var}Y = \frac{1-p}{p^2} = 20$.

(e) $\sqrt{20} = 4.4721$.