An experiment has sample space $S = \{a, b, c, d, e\}$ with probabilities $P(a) = P(c) = 1/8$ and $P(b) = P(d) = P(e) = 1/4$. Define random variables X and Y on S as follows:

$$\begin{array}{ll} X(a) = 0 & Y(a) = 1/8 \\ X(b) = 1/2 & Y(b) = 1/16 \\ X(c) = 1/4 & Y(c) = 0 \\ X(d) = 1/4 & Y(d) = 1/4 \\ X(e) = 1/8 & Y(e) = 1/8. \end{array}$$

What is the probability that $X = Y$ or $X < 0.2$ (or both) ?

(a) 5/8

(b) 1/16

(c) 1/2

(d) 1/4

(e) 3/8

(f) 3/4

(g) 2/3

(h) 1/8

(i) 7/8

(j) 0

(k) 0.2

(l) None of these