Question

A spinner has the probability distribution shown below.

x	$\Pr(x)$
3	0.29
23	0.15
28	0.56

Answerlist

- What is the probability of spinning 28? In other words, what is $\Pr(X = 28)$?
- What is the probability of spinning 23 or 28? In other words, what is $\Pr(X = 23 \text{ or } X = 28)$?
- If spinning twice, what is the probability of first spinning 23 and then spinning 28? In other words, what is $\Pr(X_1 = 23 \text{ and } X_2 = 28)$?
- What is the probability of spinning at most 23? In other words, what is $\Pr(X \leq 23)$?
- Determine the mean of the probability distribution by using $\mu = \sum x \cdot \Pr(x)$.
- Determine the standard deviation of the probability distribution by using $\sigma = \sqrt{\sum (x - \mu)^2 \cdot \Pr(x)}$.

Solution

Make a table (for parts d and e).

x	$\Pr(x)$	$x \cdot \Pr(x)$	$x - \mu$	$(x - \mu)^2$	$(x - \mu)^2 \cdot \Pr(x)$
3	0.29	0.87	-17	289	83.81
23	0.15	3.45	3	9	1.35
28	0.56	15.68	8	64	35.84
		$\sum x \cdot \Pr(x) = 20$			$\sigma^2 = 121$
		$\mu = 20$			$\sigma = 11$

Answerlist

- 0.56
- 0.71
- 0.084
- 0.44
- $\mu = 20$
- $\sigma = 11$

Meta-information

extype: string exsolution: yo exname: marbles extol: 0.01