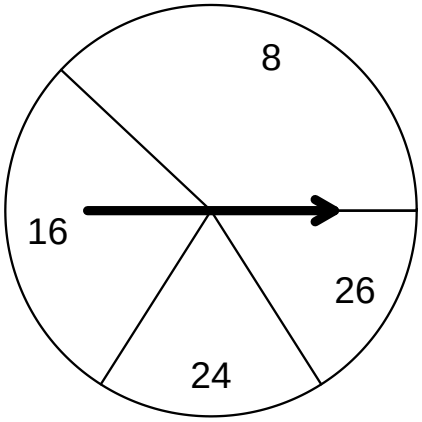
1. **Problem**
   The spinner below will be used to generate a sample.



The spinner's probability distribution is shown below.

i	x_i	p_i
1	8	0.38
2	16	0.28
3	24	0.18
4	26	0.16

(a) What is the probability of spinning 24? In other words, what is $P(X = 24)$?

(b) What is the probability of spinning 24 or 26? In other words, what is $P(X = 24 \text{ or } X = 26)$?

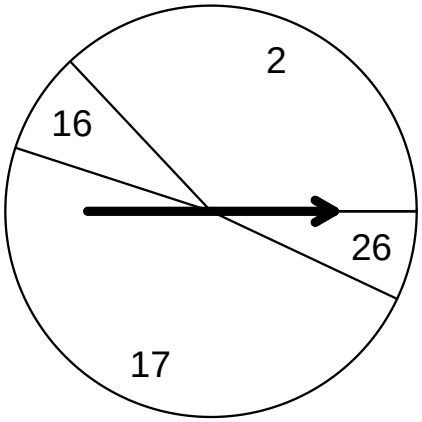
(c) If spinning twice, what is the probability of first spinning 24 and then spinning 26? In other words, what is $P(X_1 = 24 \text{ and } X_2 = 26)$?

(d) What is the probability of spinning at most 16? In other words, what is $P(X \leq 16)$?

(e) Determine the mean of the probability distribution by using $\mu = \sum p_i x_i$.

(f) Determine the standard deviation of the probability distribution by using $\sigma = \sqrt{\sum p_i (x_i - \mu)^2}$.

2. **Problem**
The spinner below will be used to generate a sample.



The spinner's probability distribution is shown below.

i	x_i	p_i
1	2	0.37
2	16	0.08
3	17	0.48
4	26	0.07

(a) What is the probability of spinning 17? In other words, what is $P(X = 17)$?

(b) What is the probability of spinning 2 or 26? In other words, what is $P(X = 2 \text{ or } X = 26)$?

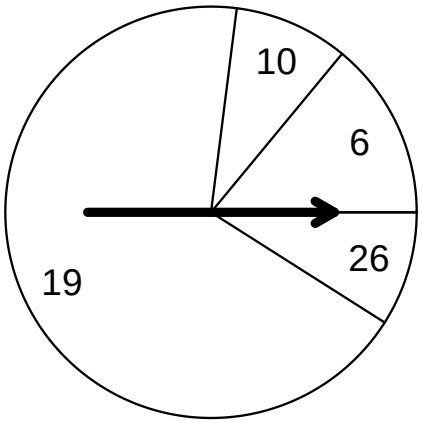
(c) If spinning twice, what is the probability of first spinning 2 and then spinning 26? In other words, what is $P(X_1 = 2 \text{ and } X_2 = 26)$?

(d) What is the probability of spinning at least 16? In other words, what is $P(X \geq 16)$?

(e) Determine the mean of the probability distribution by using $\mu = \sum p_i x_i$.

(f) Determine the standard deviation of the probability distribution by using $\sigma = \sqrt{\sum p_i (x_i - \mu)^2}$.

3. **Problem**
The spinner below will be used to generate a sample.



The spinner's probability distribution is shown below.

i	x_i	p_i
1	6	0.14
2	10	0.09
3	19	0.68
4	26	0.09

(a) What is the probability of spinning 6? In other words, what is $P(X = 6)$?

(b) What is the probability of spinning 10 or 26? In other words, what is $P(X = 10 \text{ or } X = 26)$?

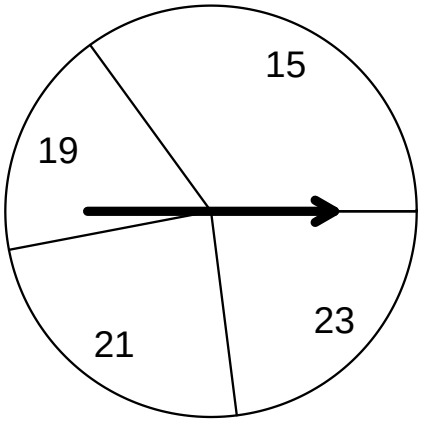
(c) If spinning twice, what is the probability of first spinning 10 and then spinning 26? In other words, what is $P(X_1 = 10 \text{ and } X_2 = 26)$?

(d) What is the probability of spinning at most 10? In other words, what is $P(X \leq 10)$?

(e) Determine the mean of the probability distribution by using $\mu = \sum p_i x_i$.

(f) Determine the standard deviation of the probability distribution by using $\sigma = \sqrt{\sum p_i (x_i - \mu)^2}$.

4. **Problem**
The spinner below will be used to generate a sample.



The spinner's probability distribution is shown below.

i	x_i	p_i
1	15	0.35
2	19	0.18
3	21	0.24
4	23	0.23

(a) What is the probability of spinning 21? In other words, what is $P(X = 21)$?

(b) What is the probability of spinning 19 or 23? In other words, what is $P(X = 19 \text{ or } X = 23)$?

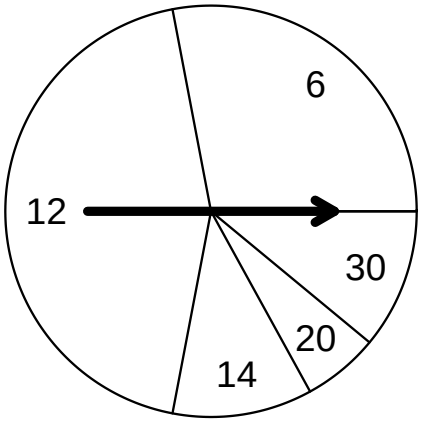
(c) If spinning twice, what is the probability of first spinning 19 and then spinning 23? In other words, what is $P(X_1 = 19 \text{ and } X_2 = 23)$?

(d) What is the probability of spinning at least 19? In other words, what is $P(X \geq 19)$?

(e) Determine the mean of the probability distribution by using $\mu = \sum p_i x_i$.

(f) Determine the standard deviation of the probability distribution by using $\sigma = \sqrt{\sum p_i (x_i - \mu)^2}$.

5. **Problem**
The spinner below will be used to generate a sample.



The spinner's probability distribution is shown below.

i	x_i	p_i
1	6	0.28
2	12	0.44
3	14	0.11
4	20	0.06
5	30	0.11

(a) What is the probability of spinning 20? In other words, what is $P(X = 20)$?

(b) What is the probability of spinning 6 or 12? In other words, what is $P(X = 6 \text{ or } X = 12)$?

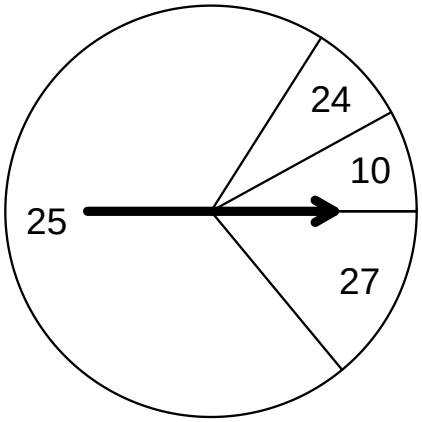
(c) If spinning twice, what is the probability of first spinning 6 and then spinning 12? In other words, what is $P(X_1 = 6 \text{ and } X_2 = 12)$?

(d) What is the probability of spinning at most 12? In other words, what is $P(X \leq 12)$?

(e) Determine the mean of the probability distribution by using $\mu = \sum p_i x_i$.

(f) Determine the standard deviation of the probability distribution by using $\sigma = \sqrt{\sum p_i (x_i - \mu)^2}$.

6. **Problem**
The spinner below will be used to generate a sample.



The spinner's probability distribution is shown below.

i	x_i	p_i
1	10	0.08
2	24	0.08
3	25	0.7
4	27	0.14

(a) What is the probability of spinning 24? In other words, what is $P(X = 24)$?

(b) What is the probability of spinning 10 or 27? In other words, what is $P(X = 10 \text{ or } X = 27)$?

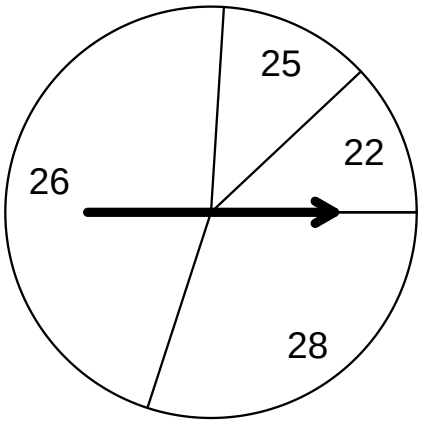
(c) If spinning twice, what is the probability of first spinning 10 and then spinning 27? In other words, what is $P(X_1 = 10 \text{ and } X_2 = 27)$?

(d) What is the probability of spinning at least 24? In other words, what is $P(X \geq 24)$?

(e) Determine the mean of the probability distribution by using $\mu = \sum p_i x_i$.

(f) Determine the standard deviation of the probability distribution by using $\sigma = \sqrt{\sum p_i (x_i - \mu)^2}$.

7. **Problem**
The spinner below will be used to generate a sample.



The spinner's probability distribution is shown below.

i	x_i	p_i
1	22	0.12
2	25	0.12
3	26	0.46
4	28	0.3

(a) What is the probability of spinning 22? In other words, what is $P(X = 22)$?

(b) What is the probability of spinning 26 or 28? In other words, what is $P(X = 26 \text{ or } X = 28)$?

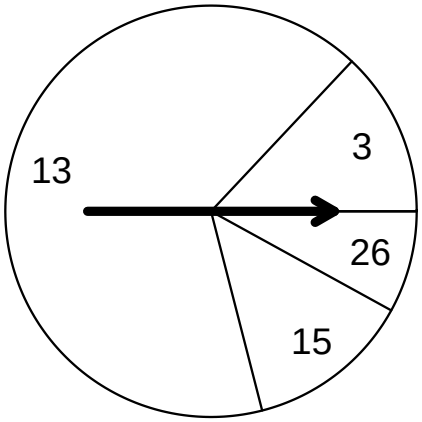
(c) If spinning twice, what is the probability of first spinning 26 and then spinning 28? In other words, what is $P(X_1 = 26 \text{ and } X_2 = 28)$?

(d) What is the probability of spinning at least 25? In other words, what is $P(X \geq 25)$?

(e) Determine the mean of the probability distribution by using $\mu = \sum p_i x_i$.

(f) Determine the standard deviation of the probability distribution by using $\sigma = \sqrt{\sum p_i (x_i - \mu)^2}$.

8. **Problem**
The spinner below will be used to generate a sample.



The spinner's probability distribution is shown below.

i	x_i	p_i
1	3	0.13
2	13	0.66
3	15	0.13
4	26	0.08

(a) What is the probability of spinning 26? In other words, what is $P(X = 26)$?

(b) What is the probability of spinning 3 or 13? In other words, what is $P(X = 3 \text{ or } X = 13)$?

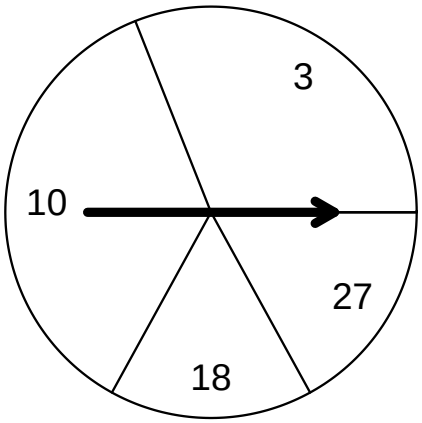
(c) If spinning twice, what is the probability of first spinning 3 and then spinning 13? In other words, what is $P(X_1 = 3 \text{ and } X_2 = 13)$?

(d) What is the probability of spinning at most 15? In other words, what is $P(X \leq 15)$?

(e) Determine the mean of the probability distribution by using $\mu = \sum p_i x_i$.

(f) Determine the standard deviation of the probability distribution by using $\sigma = \sqrt{\sum p_i (x_i - \mu)^2}$.

9. **Problem**
The spinner below will be used to generate a sample.



The spinner's probability distribution is shown below.

i	x_i	p_i
1	3	0.31
2	10	0.36
3	18	0.16
4	27	0.17

(a) What is the probability of spinning 10? In other words, what is $P(X = 10)$?

(b) What is the probability of spinning 3 or 27? In other words, what is $P(X = 3 \text{ or } X = 27)$?

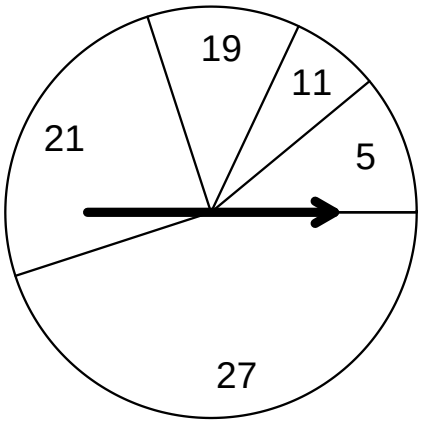
(c) If spinning twice, what is the probability of first spinning 3 and then spinning 27? In other words, what is $P(X_1 = 3 \text{ and } X_2 = 27)$?

(d) What is the probability of spinning at most 18? In other words, what is $P(X \leq 18)$?

(e) Determine the mean of the probability distribution by using $\mu = \sum p_i x_i$.

(f) Determine the standard deviation of the probability distribution by using $\sigma = \sqrt{\sum p_i (x_i - \mu)^2}$.

10. **Problem**
The spinner below will be used to generate a sample.



The spinner's probability distribution is shown below.

i	x_i	p_i
1	5	0.11
2	11	0.07
3	19	0.12
4	21	0.25
5	27	0.45

(a) What is the probability of spinning 11? In other words, what is $P(X = 11)$?

(b) What is the probability of spinning 11 or 27? In other words, what is $P(X = 11 \text{ or } X = 27)$?

(c) If spinning twice, what is the probability of first spinning 11 and then spinning 27? In other words, what is $P(X_1 = 11 \text{ and } X_2 = 27)$?

(d) What is the probability of spinning at least 19? In other words, what is $P(X \geq 19)$?

(e) Determine the mean of the probability distribution by using $\mu = \sum p_i x_i$.

(f) Determine the standard deviation of the probability distribution by using $\sigma = \sqrt{\sum p_i (x_i - \mu)^2}$.

1. Make a table (for parts d and e).

x_i	p_i	$p_i x_i$	$x_i - \mu$	$(x_i - \mu)^2$	$p_i(x_i - \mu)^2$
8	0.38	3.04	-8	64	24.32
16	0.28	4.48	0	0	0
24	0.18	4.32	8	64	11.52
26	0.16	4.16	10	100	16
=========	=========	=========	=========	=========	=========
		$\sum p_i x_i = 16$			$\sum p_i(x_i - \mu)^2 = 51.84$
		$\mu = 16$			$\sigma = \sqrt{\sum p_i(x_i - \mu)^2} = 7.2$

(a) 0.18

(b) 0.34

(c) 0.0288

(d) 0.66

(e) $\mu = 16$

(f) $\sigma = 7.2$

2. Make a table (for parts d and e).

x_i	p_i	$p_i x_i$	$x_i - \mu$	$(x_i - \mu)^2$	$p_i(x_i - \mu)^2$
2	0.37	0.74	-10	100	37
16	0.08	1.28	4	16	1.28
17	0.48	8.16	5	25	12
26	0.07	1.82	14	196	13.72
=========	=========	=========	=========	=========	=========
		$\sum p_i x_i = 12$			$\sum p_i(x_i - \mu)^2 = 64$
		$\mu = 12$			$\sigma = \sqrt{\sum p_i(x_i - \mu)^2} = 8$

(a) 0.48

(b) 0.44

(c) 0.0259

(d) 0.63

(e) $\mu = 12$

(f) $\sigma = 8$

3. Make a table (for parts d and e).

x_i	p_i	$p_i x_i$	$x_i - \mu$	$(x_i - \mu)^2$	$p_i(x_i - \mu)^2$
6	0.14	0.84	-11	121	16.94
10	0.09	0.9	-7	49	4.41
19	0.68	12.92	2	4	2.72
26	0.09	2.34	9	81	7.29
=========	=========	=========	=========	=========	=========
		$\sum p_i x_i = 17$			$\sum p_i(x_i - \mu)^2 = 31.36$
		$\mu = 17$			$\sigma = \sqrt{\sum p_i(x_i - \mu)^2} = 5.6$

(a) 0.14

(b) 0.18

(c) 0.0081

(d) 0.23

(e) $\mu = 17$

(f) $\sigma = 5.6$

4. Make a table (for parts d and e).

x_i	p_i	$p_i x_i$	$x_i - \mu$	$(x_i - \mu)^2$	$p_i(x_i - \mu)^2$
15	0.35	5.25	-4	16	5.6
19	0.18	3.42	0	0	0
21	0.24	5.04	2	4	0.96
23	0.23	5.29	4	16	3.68
=========	=========	=========	=========	=========	=========
		$\sum p_i x_i = 19$			$\sum p_i(x_i - \mu)^2 = 10.24$
		$\mu = 19$			$\sigma = \sqrt{\sum p_i(x_i - \mu)^2} = 3.2$

(a) 0.24

(b) 0.41

(c) 0.0414

(d) 0.65

(e) $\mu = 19$

(f) $\sigma = 3.2$

5. Make a table (for parts d and e).

x_i	p_i	$p_i x_i$	$x_i - \mu$	$(x_i - \mu)^2$	$p_i(x_i - \mu)^2$
6	0.28	1.68	-7	49	13.72
12	0.44	5.28	-1	1	0.44
14	0.11	1.54	1	1	0.11
20	0.06	1.2	7	49	2.94
30	0.11	3.3	17	289	31.79
=========	=========	=========	=========	=========	=========
		$\sum p_i x_i = 13$			$\sum p_i(x_i - \mu)^2 = 49$
		$\mu = 13$			$\sigma = \sqrt{\sum p_i(x_i - \mu)^2} = 7$

(a) 0.06

(b) 0.72

(c) 0.1232

(d) 0.72

(e) $\mu = 13$

(f) $\sigma = 7$

6. Make a table (for parts d and e).

x_i	p_i	$p_i x_i$	$x_i - \mu$	$(x_i - \mu)^2$	$p_i(x_i - \mu)^2$
10	0.08	0.8	-14	196	15.68
24	0.08	1.92	0	0	0
25	0.7	17.5	1	1	0.7
27	0.14	3.78	3	9	1.26
=========	=========	=========	=========	=========	=========
		$\sum p_i x_i = 24$			$\sum p_i(x_i - \mu)^2 = 17.64$
		$\mu = 24$			$\sigma = \sqrt{\sum p_i(x_i - \mu)^2} = 4.2$

(a) 0.08

(b) 0.22

(c) 0.0112

(d) 0.92

(e) $\mu = 24$

(f) $\sigma = 4.2$

7. Make a table (for parts d and e).

x_i	p_i	$p_i x_i$	$x_i - \mu$	$(x_i - \mu)^2$	$p_i(x_i - \mu)^2$
22	0.12	2.64	-4	16	1.92
25	0.12	3	-1	1	0.12
26	0.46	11.96	0	0	0
28	0.3	8.4	2	4	1.2
=========	=========	=========	=========	=========	=========
		$\sum p_i x_i = 26$			$\sum p_i(x_i - \mu)^2 = 3.24$
		$\mu = 26$			$\sigma = \sqrt{\sum p_i(x_i - \mu)^2} = 1.8$

(a) 0.12

(b) 0.76

(c) 0.138

(d) 0.88

(e) $\mu = 26$

(f) $\sigma = 1.8$

8. Make a table (for parts d and e).

x_i	p_i	$p_i x_i$	$x_i - \mu$	$(x_i - \mu)^2$	$p_i(x_i - \mu)^2$
3	0.13	0.39	-10	100	13
13	0.66	8.58	0	0	0
15	0.13	1.95	2	4	0.52
26	0.08	2.08	13	169	13.52
=========	=========	=========	=========	=========	=========
		$\sum p_i x_i = 13$			$\sum p_i(x_i - \mu)^2 = 27.04$
		$\mu = 13$			$\sigma = \sqrt{\sum p_i(x_i - \mu)^2} = 5.2$

(a) 0.08

(b) 0.79

(c) 0.0858

(d) 0.92

(e) $\mu = 13$

(f) $\sigma = 5.2$

9. Make a table (for parts d and e).

x_i	p_i	$p_i x_i$	$x_i - \mu$	$(x_i - \mu)^2$	$p_i(x_i - \mu)^2$
3	0.31	0.93	-9	81	25.11
10	0.36	3.6	-2	4	1.44
18	0.16	2.88	6	36	5.76
27	0.17	4.59	15	225	38.25
=========	=========	=========	=========	=========	=========
		$\sum p_i x_i = 12$			$\sum p_i(x_i - \mu)^2 = 70.56$
		$\mu = 12$			$\sigma = \sqrt{\sum p_i(x_i - \mu)^2} = 8.4$

(a) 0.36

(b) 0.48

(c) 0.0527

(d) 0.83

(e) $\mu = 12$

(f) $\sigma = 8.4$

10. Make a table (for parts d and e).

x_i	p_i	$p_i x_i$	$x_i - \mu$	$(x_i - \mu)^2$	$p_i(x_i - \mu)^2$
5	0.11	0.55	-16	256	28.16
11	0.07	0.77	-10	100	7
19	0.12	2.28	-2	4	0.48
21	0.25	5.25	0	0	0
27	0.45	12.15	6	36	16.2
=========	=========	=========	=========	=========	=========
		$\sum p_i x_i = 21$			$\sum p_i(x_i - \mu)^2 = 51.84$
		$\mu = 21$			$\sigma = \sqrt{\sum p_i(x_i - \mu)^2} = 7.2$

(a) 0.07

(b) 0.52

(c) 0.0315

(d) 0.82

(e) $\mu = 21$

(f) $\sigma = 7.2$