Bellwork   Alg 2B   Tuesday, April 17, 2018

1. At your work a regular shift is 9 hrs and a double shift is 18 hrs. The business is open 18 hours each day. On a given day the probably you work a regular shift is $\frac{4}{7}$ and the probability you work a double shift is $\frac{1}{6}$. Find each probability as a percent to the nearest tenth.

a) Find the probability that tomorrow you will work a regular shift or you will work a double shift.

P(regular shift or double shift) =

b) Find the probability this week you will work a regular shift or you will work a double shift.

P(regular shift or double shift) =

2. Use the results of a survey shown below to find each probability as a fraction without reducing.

|	Basketball	Football	Hockey	Baseball	Total
MSU	19	43	6	11	79
UofM	30	18	14	21	83
Total	49	61	20	32	162

a) P(MSU or Hockey)   b) P(UofM | Football)   c) P(Basketball and UofM)

d) P(Baseball | MSU)   e) P(Hockey or Football)

4. You are going to throw two darts at the board below and they are going to randomly land somewhere on the board. The numbers in each ring represent the number of points you earn when a dart lands in that area. Your score is the sum of the points for the two darts. Find the probability your score for the two darts is 14 points. Give your answer as a percent to the nearest hundredth. The diameter of the bulls-eye is 5 inches and each ring is 2 inches wide.
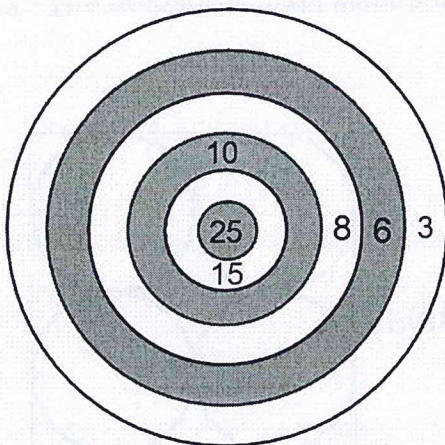
P(sum of 14 pts) =

1. At your work a regular shift is 9 hrs and a double shift is 18 hrs. The business is open 18 hours each day. On a given day the probably you work a regular shift is $\frac{4}{7}$ and the probability you work a double shift is $\frac{1}{6}$. Find each probability as a percent to the nearest tenth.

a) Find the probability that tomorrow you will work a regular shift or you will work a double shift.

These two events are mutually exclusive.

P(regular shift or double shift) = $\frac{4}{7} + \frac{1}{6}$ = **73.8%**

b) Find the probability this week you will work a regular shift or you will work a double shift.

These two events are not mutually exclusive.

P(regular shift or double shift) =

$\frac{4}{7} + \frac{1}{6} - \frac{4}{7} \cdot \frac{1}{6}$ = **64.3%**

2. Use the results of a survey shown below to find each probability as a fraction without reducing.

	Basketball	Football	Hockey	Baseball	Total
MSU	19	43	6	11	79
UofM	30	18	14	21	83
Total	49	61	20	32	162

a) P(MSU or Hockey)

$\frac{93}{162}$

b) P(UofM | Football)

$\frac{18}{61}$

c) P(Basketball and UofM)

$\frac{30}{162}$

d) P(Baseball | MSU)

$\frac{11}{79}$

e) P(Hockey or Football)

$\frac{81}{162}$

4. You are going to throw two darts at the board below and they are going to randomly land somewhere on the board. The numbers in each ring represent the number of points you earn when a dart lands in that area. Your score is the sum of the points for the two darts. Find the probability your score for the two darts is 14 points. Give your answer as a percent to the nearest hundredth. The diameter of the bulls-eye is 5 inches and each ring is 2 inches wide.
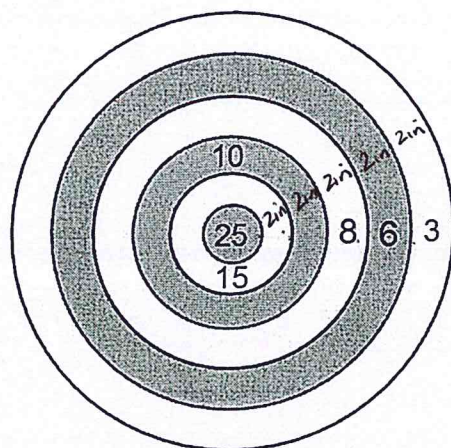
Radius of Target = 12.5 in

Area of Target = $\pi (12.5)^2 = 156.25\pi$

Area 8 pt RING = $\pi (8.5)^2 - \pi (6.5)^2 = 30\pi$

Area 6 pt RING = $\pi (10.5)^2 - \pi (8.5)^2 = 38\pi$

P(sum of 14 pts) = $P(8\,PT\ and\ 6\,PT)$

= $P(8\,PT) \cdot P(6\,PT)$

= $\frac{30\pi}{156.25\pi} \cdot \frac{38\pi}{156.25\pi}$ =>

4.67%