Bellwork Alg 2 Friday, May 31, 2109

1. 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)

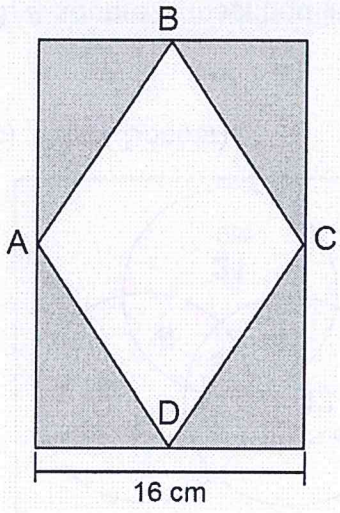
b) P(UofM | Football)

c) P(Basketball and UofM)

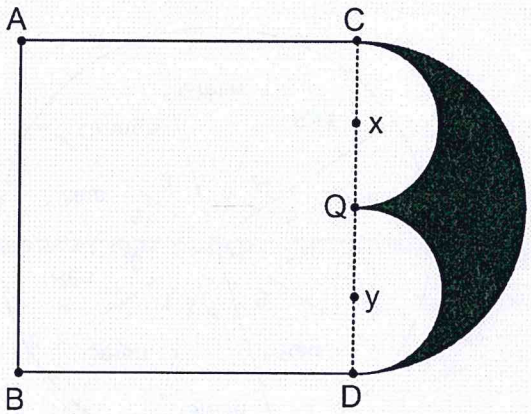
d) P(Baseball | MSU)

e) P(Hockey or Football)

2. Find the probability that a randomly chosen point in the rectangle lies in the shaded region. Give answer as a percent rounded to a hundredth. Sides of Rhombus ABCD are 17 cm.



3. The composite figure shown is formed by Square ABCD and a semicircle with center Q. Points x and y are also centers of semicircles. The perimeter of ABCD is 48 in. Find the probability that a point in the figure picked at random lies in the shaded region. Give answer as a percent rounded to a hundredth.



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ANSWERS

1. 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) $= \frac{93}{162}$

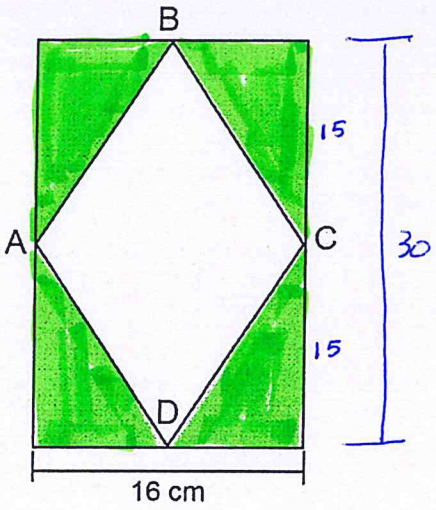
b) P(UofM | Football) $= \frac{18}{61}$

c) P(Basketball and UofM) $= \frac{30}{162}$

d) P(Baseball | MSU) $= \frac{11}{79}$

e) P(Hockey or Football) $= \frac{81}{162}$

2. Find the probability that a randomly chosen point in the rectangle lies in the shaded region. Give answer as a percent rounded to a hundredth. Sides of Rhombus ABCD are 17 cm.



EACH GREEN Δ:

$17^2 = x^2 + 8^2$

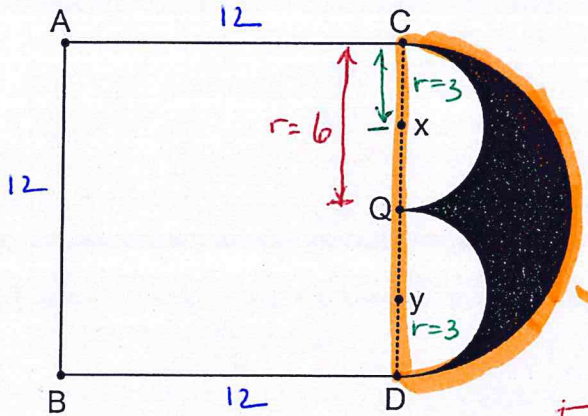
$x = \sqrt{17^2 - 8^2} = 15$

AREA OF 4 Green Δ's $= 4\left[\frac{1}{2}(8)(15)\right] = 240$

AREA OF RECTANGLE $= (16)(30) = 480$

$p(\text{shaded area}) = \frac{240}{480} = 50\%$

3. The composite figure shown is formed by Square ABCD and a semicircle with center Q. Points x and y are also centers of semicircles. The perimeter of ABCD is 48 in. Find the probability that a point in the figure picked at random lies in the shaded region. Give answer as a percent rounded to a hundredth.



perimeter of ABCD = 48 each side = 12

AREA ABCD $= (12)^2 = 144$

AREA OF SEMICIRCLE Q $= \frac{1}{2}\pi(6)^2 = 18\pi$

TOTAL AREA $= 144 + 18\pi$

AREA OF SHADED REGION:

SEMICIRCLE Q − SEMICIRCLE X − SEMICIRCLE Y

1 full circle with r = 3

$18\pi - \pi(3)^2 = 18\pi - 9\pi$

SHADED AREA $= 9\pi$

$p(\text{shaded area}) = \frac{9\pi}{144 + 18\pi} = 14.10\%$