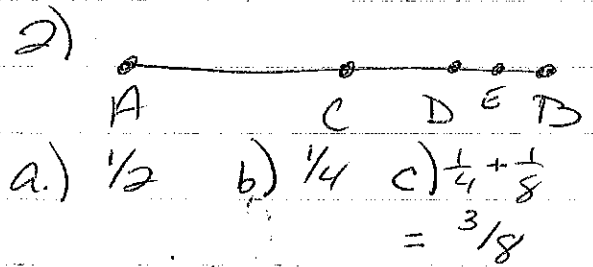
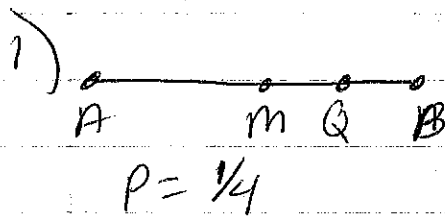
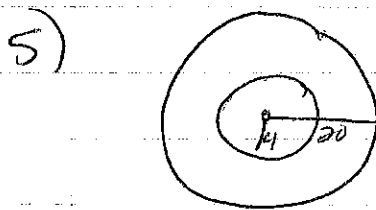


P. 443 #1-8, 11, 14



3) $\frac{15}{60} = \frac{1}{4}$

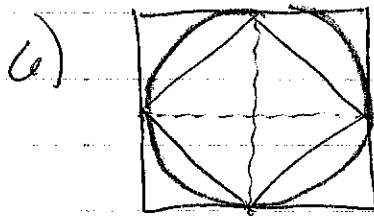
4) a) $\frac{1}{6}$ b) $\frac{2}{5}$



a) $A_{\text{balls}} = 16\pi$ $A_{\text{blackboard}} = 400\pi$

$P = \frac{16\pi}{400\pi} = \frac{1}{25}$

b) $75 \left(\frac{1}{25}\right) = 3$



a) inner square = $\frac{1}{2}$ 50%

b) outside inner square, but inside circle.

$A_{\text{big square}} = s^2$

$A_0 = \pi \left(\frac{1}{2}s\right)^2$
 $= \frac{s^2\pi}{4}$

$A_{\text{small square}} = \left(\frac{s\sqrt{2}}{2}\right)^2$
 $= \frac{s^2}{2}$

① - inner square = $\frac{s^2\pi}{4} - \frac{s^2}{2}$

$\text{Prob} = \frac{.285s^2}{s^2}$

$= .285 \approx 29\%$

$= \frac{s^2\pi}{4} - \frac{2s^2}{4}$

$= s^2(\pi - 2)/4 \approx .285s^2$

$$\begin{aligned}
 7) \quad A_{\text{dartboard}} &= 12(5) \\
 &= 60 \text{ m}^2 \\
 A_{\text{balloon}} &= \pi (10)^2 \\
 &= 100\pi \\
 16 \text{ balloons} &= 1600\pi \\
 30 \text{ balloons} &= 3000\pi \\
 A_{\text{balloon}} &= \frac{3000\pi}{60} \\
 &= 50\pi
 \end{aligned}$$

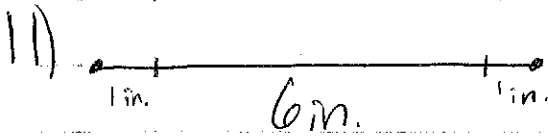
$$\begin{aligned}
 7) \quad A_{\text{dartboard}} &= 1200(500) \\
 &= 600,000 \text{ cm}^2 \\
 A_{\text{balloon}} &= 100\pi \text{ cm}^2 \\
 30 \text{ balloons} &= 3000\pi \text{ cm}^2 \\
 P &= \frac{3000\pi}{600,000} \\
 &= \frac{\pi}{200} \approx 0.0157
 \end{aligned}$$

$$\begin{aligned}
 8) \quad A_{\text{field}} &= 100(80) \\
 &= 8000 \text{ m}^2 \\
 A_{\text{small } \odot} &= 25\pi \\
 A_{\text{big } \odot} &= 64\pi \\
 A_{\text{path}} &= 89\pi
 \end{aligned}$$

$$P_{\text{avoiding trees}} = \frac{8000 - 89\pi}{8000}$$

$$\approx 0.965$$

P. 464



$$\frac{2 \text{ in.}}{6 \text{ in.}} = \frac{1}{3}$$

12) $A_{\text{board}} = 10 \text{ m}^2$

$$P = \frac{3}{50}$$

$$\frac{3}{50} = \frac{100x}{10}$$

~~$50x = 30$~~
 ~~$x = 0.6$~~

$5000x = 30$
 $x = .006 \text{ m}^2$