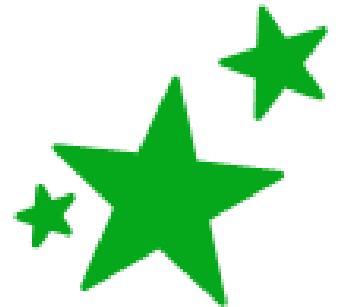


10 - 5

**Independent and
Dependent Events**

independent: second event does not
depend on the first

* object is replaced



dependent: result of the first event
affects the result of the second

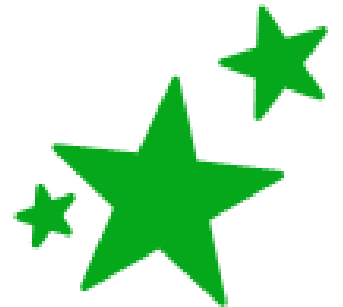
* object not replaced



Ex: 3 red apples, 2 yellow apples
with replacement

Find P(red, then red).

$$\frac{3}{5} \cdot \frac{3}{5} = \left(\frac{9}{25} \right)$$



Ex: ~~3~~² red apples, 2 yellow apples
without replacement

Find P(red, then red).

$$\frac{3}{5} \cdot \frac{2}{4} = \frac{6}{20} = \left(\frac{3}{10} \right)$$

P(red, yellow)

$$\frac{3}{5} \cdot \frac{1}{4}$$



ex: 4 red, 7 yellow

$P(\text{red, yellow})$ no replacement

$$\frac{4}{11} \cdot \frac{7}{10} = \frac{28}{110} = \left(\frac{14}{55} \right)$$

Homework:

p.458 #10 - 34 even

