

PROBABILITY PROBLEM SOLVING – MUTUALLY EXCLUSIVE EVENTS

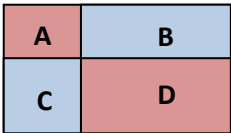
If A and B are **mutually exclusive events** then:

$$P(A \text{ or } B) = P(A) + P(B)$$

If A and B are **mutually exclusive** and **exhaustive events**:

$$P(A) + P(B) = 1$$

P1.



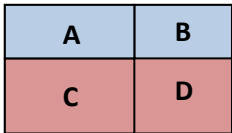
$$P(A) = \frac{1}{8}$$

$$P(D) = \frac{2}{7}$$

a) Calculate the probability of a fish being in either region A **or** region D.

b) Calculate the probability of a fish being in either region B **or** region C.

P2.

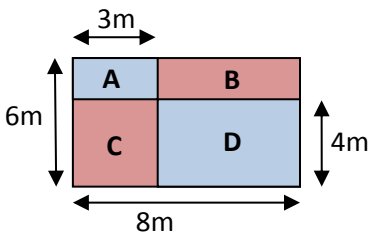


$$P(C) = \frac{3}{8}$$

$$P(C \text{ or } D) = \frac{7}{12}$$

Calculate the probability of a fish being in region D.

P3.



Calculate the probability of a fish being in region B **or** C.

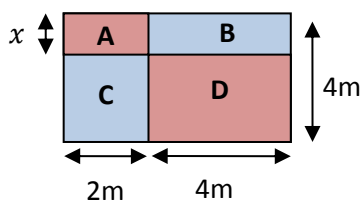
CHALLENGE PROBLEM



If a fish tank is a cube, calculate the probability of a fish being in the bottom half of the tank **or** the right hand side of the tank **or** the front half of the tank.

CAUTION: There is something fishy about this problem – what is it?

SUPER CHALLENGE PROBLEM



$$P(A \text{ or } D) = \frac{5}{8}$$

Calculate the length x.

How confident do I feel about mutually exclusive event problems?

R A G