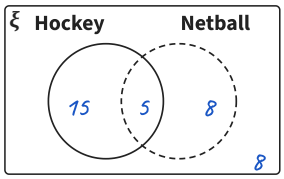
Conditional probability: Venn diagrams

Exit ticket ANSWERS Name _____

1. 36 people: 20 play hockey, 13 play netball and 5 play both. Fill in the Venn diagram.



2. Use your diagram. Find the probability that a person plays hockey, given that they play netball.

$\frac{5}{13}$

3. 40 people: 24 like pizza, 18 like pasta and 9 like both. Find the probability that a person likes pasta, given that they like pizza.

$\frac{9}{24} = \frac{3}{8}$

The Maths Habit

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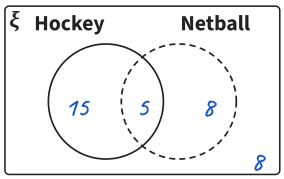

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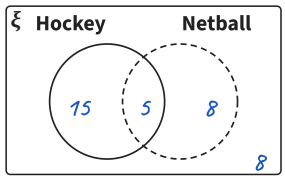

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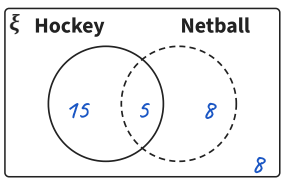

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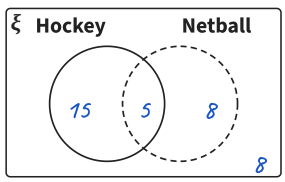

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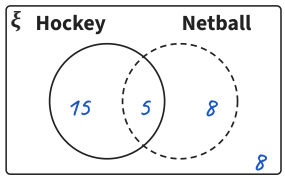
Exit ticket Conditional probability: Venn diagrams

1 **36 people: 20 play hockey, 13 play netball and 5 play both. Fill in the Venn diagram.**

15, 5, 8 and 8 outside



TESTS Filling a Venn diagram from counts: both first

LOOK FOR *20 and 13 in the circles* the totals put in as the parts: take the 5 in the middle away first

3 outside 36 − 20 − 13: the 5 in both is taken away twice

FIX IT

30 people: 14 swim, 11 run and 4 do both. Fill in a Venn diagram. *10, 4, 7 and 9 outside*

2 **Use your diagram. Find the probability that a person plays hockey, given that they play netball.**

$\frac{5}{13}$

TESTS Given that: the circle you stand in is the denominator

LOOK FOR $\frac{5}{36}$ the whole diagram: stand in the Netball circle

$\frac{5}{8}$ netball only: the 5 in the middle play netball too

FIX IT

9 people like only tea, 6 like tea and coffee, 7 like only coffee and 8 like neither. Find the probability that a person likes tea, given that they like coffee. $\frac{6}{13}$

3 **40 people: 24 like pizza, 18 like pasta and 9 like both. Find the probability that a person likes pasta, given that they like pizza.**

$\frac{9}{24} = \frac{3}{8}$

TESTS The whole method from words

LOOK FOR $\frac{9}{40}$ every person as the denominator: the given group is the 24 who like pizza

$\frac{9}{15}$ pizza only: the 9 in the middle like pizza too

FIX IT

50 people: 26 have a bike, 20 have a scooter and 8 have both. Find the probability that a person has a bike, given that they have a scooter. $\frac{8}{20} = \frac{2}{5}$