

MGF /

Identifying equivalent and equal sets for a real-world situation

Problem Explanation

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Identifying equivalent and equal sets for a real-world situation

QUESTION

In a linguistics course, the professor asked the students to list all the languages they speak besides English. The table lists the answers of eight students. Using the table, complete the following.

(a) Choose a set that is equal to the set of languages spoken by Abdul.

(Choose one) Miguel

(b) Choose a set that is equivalent, but not equal, to the set of languages spoken by Shen. Same number of items

(Choose one) Ravi

(c) Find two students whose sets of spoken languages are neither equal nor equivalent.

(Choose one) Leila and (Choose one) Lamar

Student	Set of spoken languages
Leila	{Czech, Arabic, Russian, Zulu}
Shen	{Czech, Oromo, Xhosa, Hindi, Latin}
Ravi	{Arabic, Mandarin, Vietnamese, Italian, Norwegian}
Miguel	{Japanese, Tagalog, Russian}
Lamar	{Welsh, Greek}
Chau	{Arabic, Norwegian, Greek, Welsh}
Abdul	{Russian, Japanese, Tagalog}
Felipe	{Czech, Welsh}

$n(L\&H) = 4$
 $n(Shen) = 5$
 $n(Ravi) = 5$
 $n(Lamar) = 2$

Identifying equivalent and equal sets for a real-world situation

A restaurant asked customers to list their favorite menu items. The table lists the answers of eight customers. Using the table, complete the following.

(a) Choose a set that is equivalent, but not equal, to the set of Chau's favorite menu items.

(Choose one) Alan

(b) Choose a set that is equal to the set of Charmaine's favorite menu items.

(Choose one) Pablo

(c) Find two customers whose sets of favorite menu items are neither equivalent nor equal.

(Choose one) Joe and (Choose one) Jenny

equivalent - same # of elements
 equal - everything exactly the same

Customer	Set of favorite menu items
Jenny	{Ravioli, Tacos, Shrimps} $n = 3$
Alan	{Tacos, Jambalaya, Cheeseburger, Chili, Sausage} $n = 5$
Carlos	{Salmon, Gumbo, Lasagna, Sausage}
Chau	{Ravioli, Paella, Pizza, Pilaf, Samosa} $n = 5$
Pablo	{Dumplings, Shrimps}
Joe	{Tacos, Sausage, Gumbo, Salmon} $n = 4$
Shen	{Ravioli, Salmon, Tacos}
Charmaine	{Shrimps, Dumplings}

cardinality - # of elements in a set
 $n(s)$