Dividing By Zero : Solutions

puzzle #1

a) What's 4 ÷ (1/2)?

That is, if I give four pies to each half of a student, how much pie does a whole student receive?

b) What's 10 ÷ (2/3)?

That is, if two-thirds of a student receives ten pies, how much pie does a whole student receive?

ANSWER TO PUZZLE 1:

a) If each half a student gets 4 pies, then a whole student gets 8 pies. We have 4 ÷ (1/2) = 8.

b) If two-thirds of a student gets 10 pies, then one-third of a student gets 5 pies, and a whole student gets 15 pies. We have 10 ÷ (2/3) = 15.

puzzle #2

Two-and-a-half pies are shared equally among four-and-a-half students. How much pie does one whole student receive?

ANSWER TO PUZZLE 2:

Double the number of pies and the number of students. This won't change the amount of pie each student recieves, and it shows that each student gets five-ninths of a pie.

For more on this "pies-per-student" approach to thinking about fractions see Chapter 5 here.

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