Name _____ Date_____

Equivalent Ratios

There are 35 boys in the sixth grade. The number of girls in the sixth grade is 42. Lonnie says that means the ratio of the number of boys in the sixth grade to the number of girls in the sixth grade is $5:7$. Is Lonnie correct? Show why or why not.

1. Use diagrams or the description of equivalent ratios to show that the ratios $2:3$, $4:6$, and $8:12$ are equivalent.

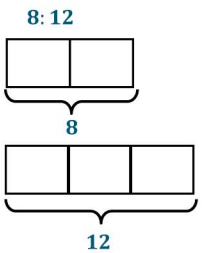
2. Prove that $3:8$ is equivalent to $12:32$.
   a. Use diagrams to support your answer.
   b. Use the description of equivalent ratios to support your answer.

3. The ratio of Isabella's money to Shane's money is $3:11$. If Isabella has $\$33$, how much money do Shane and Isabella have together? Use diagrams to illustrate your answer.

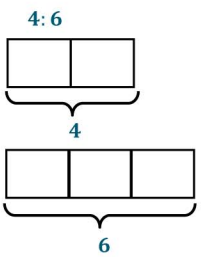
There are 35 boys in the sixth grade. The number of girls in the sixth grade is 42. Lonnie says that means the ratio of the number of boys in the sixth grade to the number of girls in sixth grade is $5:7$. Is Lonnie correct? Show why or why not.

No, Lonnie is not correct. The ratios $5:7$ and $35:42$ are not equivalent. They are not equivalent because $5 \times 7 = 35$, but $7 \times 7 = 49$, not 42.

1. Use diagrams or the description of equivalent ratios to show that the ratios $2:3$, $4:6$, and $8:12$ are equivalent.



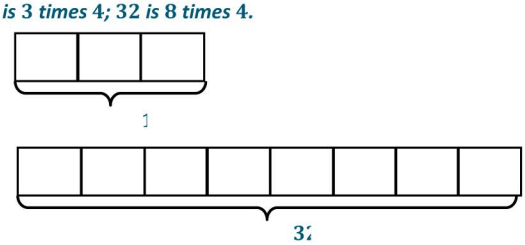
8 is 2 times 4; 12 is 3 times 4.
The constant number, c, is 4.



4 is 2 times 2; 6 is 3 times 2.
The constant number, c, is 2.

2. Prove that $3:8$ is equivalent to $12:32$.
   a. Use diagrams to support your answer.

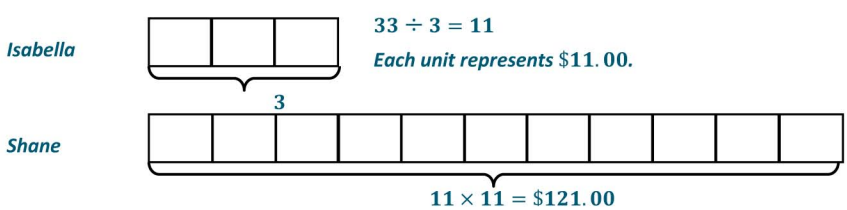
12 is 3 times 4; 32 is 8 times 4.



   b. Use the description of equivalent ratios to support your answer.

Answers will vary. Descriptions should include multiplicative comparisons, such as 12 is 3 times 4 and 32 is 8 times 4. The constant number, c, is 4.

3. The ratio of Isabella's money to Shane's money is $3:11$. If Isabella has $\$33$, how much money do Shane and Isabella have together? Use diagrams to illustrate your answer.



Isabella has $\$33$, and Shane has $\$121$. $\$33 + \$121 = \$154$. Together, Isabella and Shane have $\$154.00$.