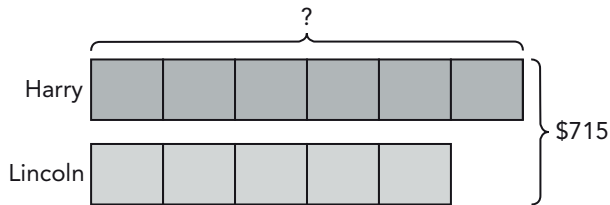## Lesson 4.3   Real-World Problems: Ratios

Solve.

Example

The ratio of Harry's money to Lincoln's money is 6 : 5.

a)   If Harry and Lincoln have a total of $715, how much money does Harry have?

?

Harry

$715

Lincoln

Total amount of money = ___6___ + ___5___

= ___11___ units

___11___ units → $___715___

___1___ unit → $___715___ ÷ ___11___ = $___65___

___6___ units → ___6___ × $___65___ = $___390___

Harry has $___390___.

b)   If Lincoln has $575, how much money does Harry have?

?

Harry

Lincoln

$575
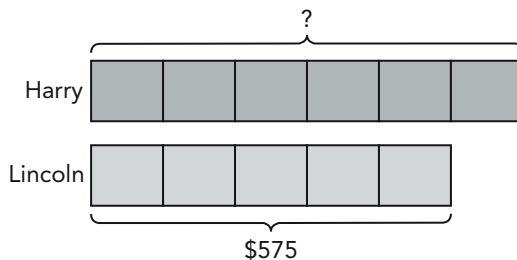
___5___ units → $___575___

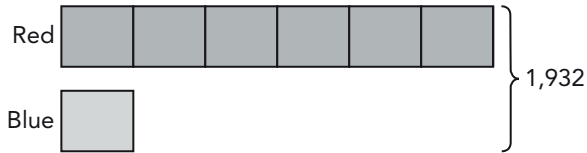___1___ unit → $___575___ ÷ ___5___ = $___115___

___6___ units → ___6___ × $___115___ = $___690___

Harry has $___690___.

1. A box contains red ink pens and blue ink pens. The ratio of the number of red ink pens to the number of blue ink pens is 6 : 1.

   a) If the total number of ink pens is 1,932, find the number of each type of ink pens.

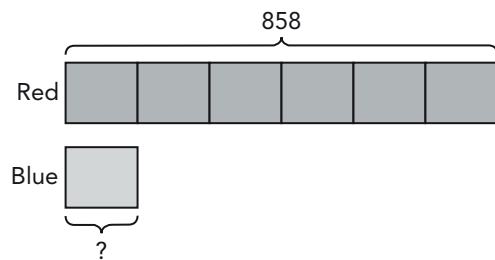   Total number of ink pens = _____ + _____

   = _____ units

   _____ units → _____

   _____ unit → _____ ÷ _____ = _____

   _____ units → _____ × _____ = _____

   The box contains _____ red ink pens and _____ blue ink pens.

   b) If the number of red ink pens is 858, find the number of blue ink pens.

   _____ units → _____

   _____ unit → _____ ÷ _____ = _____

   The box contains _____ blue ink pens.

2. A wooden plank is cut into two pieces. The ratio of the length of the two pieces of wood is 7 : 10.
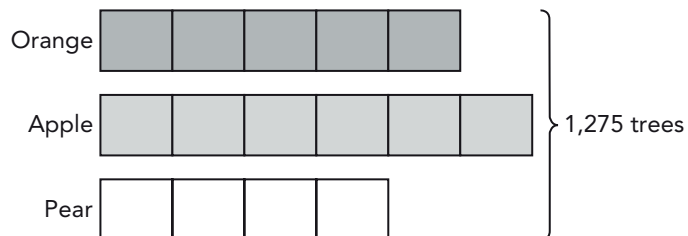
    a) If the length of the original wooden plank is 952 centimeters, what is the length of the shorter piece of wood?

    b) If the length of the shorter piece of wood is 168 centimeters, what is the length of the longer piece of wood?

Name: _____   Date: _____

Solve.

> *Example*
>
> The ratio of the number of orange trees to the number of apple trees to the number of pear trees in an orchard is 5 : 6 : 4.
>
> **a)** If there are 1,275 trees in the orchard, how many of each type of fruit trees are there?
>
> | Orange | | | | | |
> | Apple | | | | | | } 1,275 trees
> | Pear | | | | |
>
> Total number of units = ___5___ + ___6___ + ___4___
>
> $\qquad\qquad\qquad\quad$ = ___15___
>
> ___15___ units → _1,275_
>
> ___1___ unit → _1,275_ ÷ ___15___ = ___85___
>
> ___5___ units → ___5___ × ___85___ = ___425___
>
> There are ___425___ orange trees.
>
> ___6___ units → ___6___ × ___85___ = ___510___
>
> There are ___510___ apple trees.
>
> ___4___ units → ___4___ × ___85___ = ___340___
>
> There are ___340___ pear trees.

b) If there are 720 pear trees, how many trees are there in all?

Orange

Apple   }?

Pear
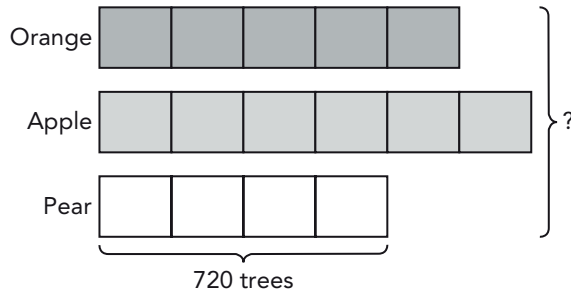
720 trees

____4____ units → __720__

____1____ unit → __720__ ÷ __4__ = __180__

____15____ units → __15__ × __180__ = __2,700__

There are __2,700__ trees in all.

---

3. Shelby, Brandon, and Ling shared the cost of lunch in the ratio 2 : 5 : 3.

   a) If lunch cost $250, how much did each person pay?

Total number of units = _____ + _____ + _____

= _____

_____ units → _____

_____ unit → _____ ÷ _____ = _____

_____ units → _____ × _____ = _____

Shelby paid _____.

_____ units → _____ × _____ = _____

Brandon paid _____.

_____ units → _____ × _____ = _____

Ling paid _____.

Shelby

Brandon   }$250
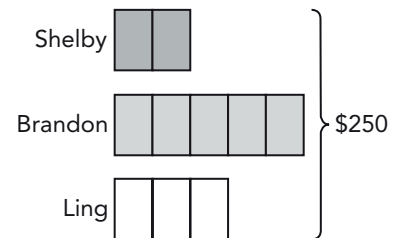
Ling

b) If Ling paid $24, how much did the lunch cost?

Shelby

Brandon ?

Ling

$24
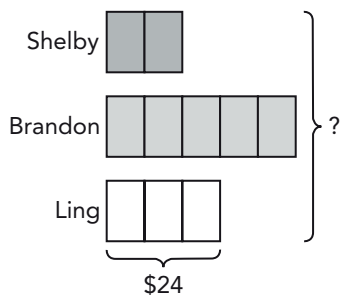
——————— units → ———————

——————— unit → ——————— ÷ ——————— = ———————

——————— units → ——————— × ——————— = ———————

The lunch cost ———————.

4. The number of stickers collected by Maurice, Elle, and Justin is in the ratio 8 : 5 : 7.

a) If Maurice collected 960 stickers, how many stickers did Elle and Justin each collect?

b) If the three children have 1,500 stickers altogether, how many stickers did they each collect?