Connecting Concepts using Bar Models and Number Lines

Deconstruct and solve word problems by modeling them with bars and number lines in collaborative groups.

Warm Up:

Connecting Concepts using Bar Models and Number Lines

Number Line:

Question #2

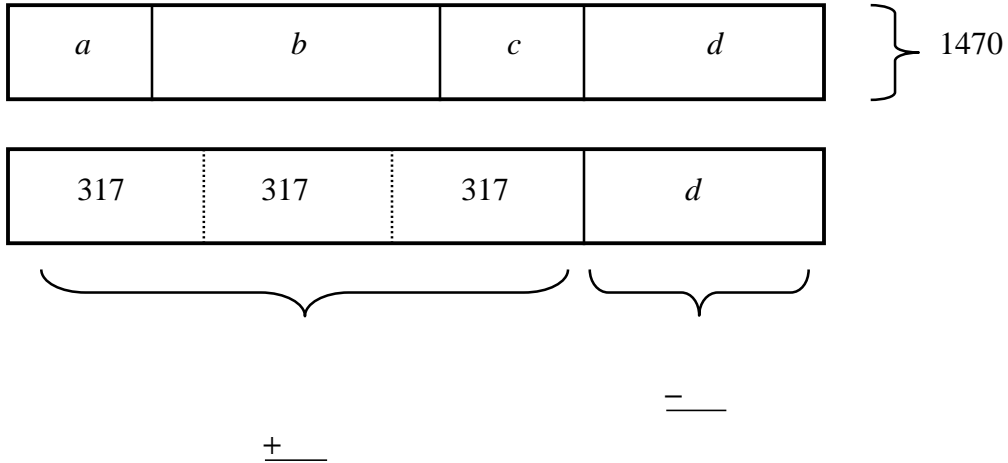Sir Francis Drake raided a Spanish Galleon. Drake kept some of the money for himself

Connecting Concepts using Bar Models and Number Lines
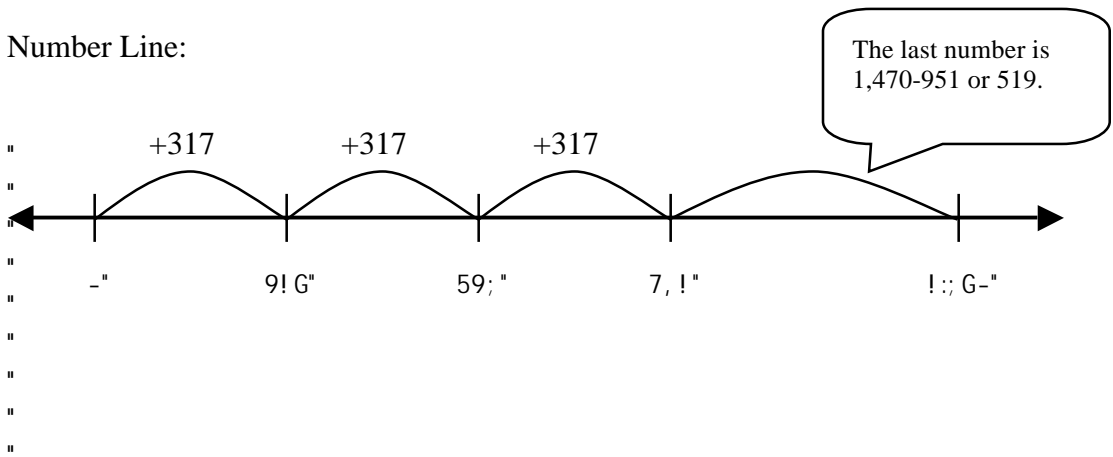
=#**EJ#4E&3K>"LM#. "&4M"N"O. >)&3#/)"
"

=#**EJ#4E&3K>"LM#. "&4M"N"O. >)&3#/)"

The sum of four numbers is 1470. The mean of three of them is 317. What is the fourth number?

Bar Model:

| a | b | c | d | } 1470 |

| 317 | 317 | 317 | d |

317   1470
317   −951
+317   519
951

Number Line:

The last number is
1,470-951 or 519.

+317   +317   +317
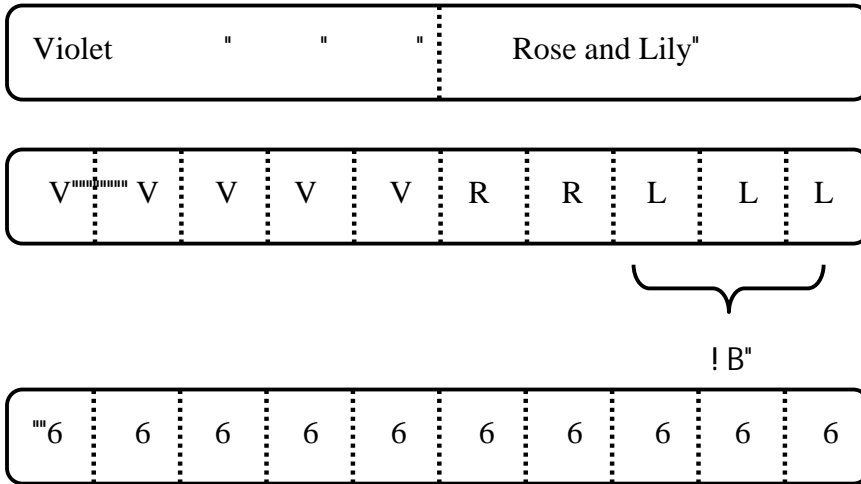
-"   9! G"   59; "   7, !"   ! :; G-"

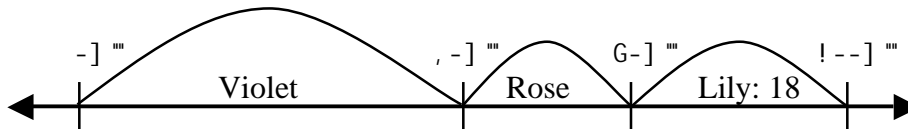# Connecting Concepts using Bar Models and Number Lines

Violet, Rose, and Lily sold seeds in their garden shop. Violet rang up half of all the sales. Rose sold 2 packets of seeds for every 5 Violet sold. Lily sold 18 packets. How many packets did Violet sell? How many did Rose sell?

Bar Model:

Violet " " "	Rose and Lily"

V""""ᐅ"""" V	V	V	V	R	R	L	L	L

! B"

""6	6	6	6	6	6	6	6	6	6

∴ Violet sold 30 packets, and Rose sold 12.

Number Line:

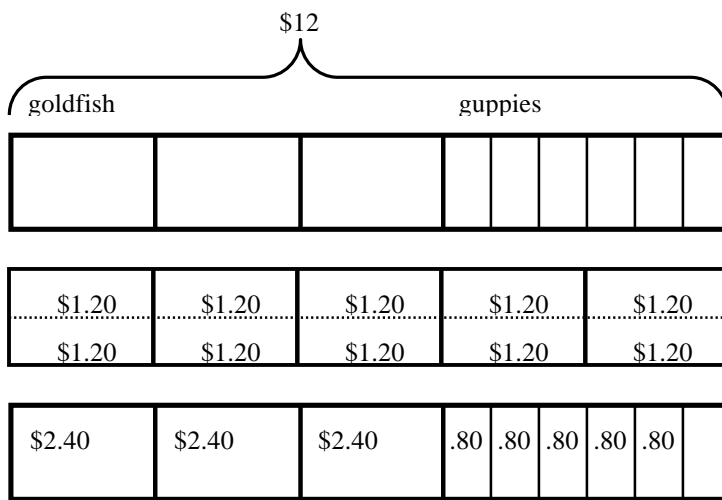-] ""   , -] ""   G-] ""   ! --] ""

Violet   Rose   Lily: 18

Lily sold 18 packets, which represents 30% of the total. That means every 6 packets (18÷3) are 10% of the total. Violet sold 30 packets (5×6) and Rose sold 12 (2×6).

Connecting Concepts using Bar Models and Number Lines

A goldfish costs three times as much as a guppy. Gary spent $\frac{3}{5}$ of his money on 3 goldfish and 6 guppies and had 8 dollars left. Find the cost of one goldfish.

Bar Model:

$12

goldfish   guppies

$1.20	$1.20	$1.20	$1.20	$1.20
$1.20	$1.20	$1.20	$1.20	$1.20

$2.40	$2.40	$2.40	.80	.80	.80	.80	.80	

$\therefore$ A goldfish cost $2.40.

Connecting Concepts using Bar Models and Number Lines

A goldfish costs three times as much as a guppy. Gary spent $\dfrac{3}{5}$ of his money on 3 goldfish and 6 guppies and had 8 dollars left over. Find the cost of one goldfish.

Number Line:

Connecting Concepts using Bar Models and Number Lines

W4S"W3**>4"J#. (%&"1"' #X>/"' #/. &)S"'U%>"%. /(4M"&>E<%>4)"E&>"$\frac{2}{3}$"#$"&%>R"J>$#4>"*. /<%S""

Y$&>4"*. /<%:")#R>"&>E<%>4)"(4EJJ>' "E/#&%>4"' #/. &"$#4"' >))>4&S"'U%>M"E&>"$\frac{1}{2}$"#$"&%>"

4>RE3/3/("' #/. &)S"Z#?"RE/M"' #/. &)"?>4>"*>$&"$#4"W4S"W3**>4"&#"&EF>"%#R>0"

"

"

^E4"W#' >*"

"

"

"

"		
1"' #X>/"' #/. &)"C"1; "' #/. &)"		
$\frac{1}{3}$"	$\frac{1}{3}$"	$\frac{1}{3}$"
B"	B"	

U#&E*"<. Q<EF>)")#*' "C"B; "

aE/3**E"=. Q<EF>)"

=%#<#*E&>"<. Q<EF>)""

Connecting Concepts using Bar Models and Number Lines

$\frac{4}{7}$

1
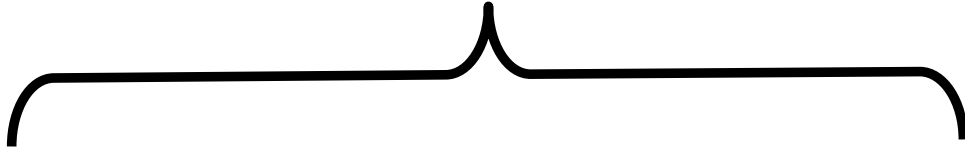
Warm-Up

Directions – For each problem below:
- Answer the problem one way showing all of your work
- Find someone else who can show you a different way of doing the problem.
- Have them write their name in the appropriate space provided.

1) At a softball game, the hotdog vendor sold $\frac{2}{3}$ of his hotdogs in the afternoon and $\frac{1}{6}$ in the evening. He sold 150 hotdogs. How many hotdogs did he have left?

My Approach: _____ 's approach

2} Sir Francis Drake raided a Spanish Galleon. Drake kept some of the money for himself and gave the rest to his crew. The English privateers collected 6,425 silver coins. If Drake had 4,849 more coins than he gave to the crew, how much did the crew get?

My Approach: _____ 's approach

"
"
"