Lesson 1-3 M

Lesson 1

1 Annie had some money in her pocket. First, she spent 20 dollars more than half of the money. Then, she spent 100 dollars less than half of the remaining money. Lastly, she spent 60 dollars more than half of the remaining money. In the end, Annie had 321 dollars left. Originally, Annie had _____ dollars.

Answer 2688

Solution Go backwards:

Before the third round, Annie had $(321 + 60) \times 2 = 762$ dollars.

Before the second round, Annie had $(762 - 100) \times 2 = 1324$ dollars.

Her original amount was $(1324 + 20) \times 2 = 2688$ dollars.

2 There are 33 wolves running back and forth in three caves. The first 7 wolves run from cave A to cave B. Then 12 wolves run from cave B to cave C. At last, 10 wolves run from cave C to cave A. Now the amounts of wolves in the three caves are the same. How many wolves were there in cave A, originally?

Answer 8

Solution

	cave A	cave B	cave C
At the beginning	$1 + 7 = 8$	$23 - 7 = 16$	9
After the first round	1	$11 + 12 = 23$	$21 - 12 = 9$
After the second round	$11 - 10 = 1$	11	$11 + 10 = 21$
After the third round	$33 \div 3 = 11$	11	11

3 There were altogether 100 balls in two boxes. First, half of the balls in the first box were dropped into the second, and then 12 less than half of the balls in the second box were dropped into the first. As a result, both boxes ended up with the same number of balls. There were _____ balls in the first box and _____ balls in the second box at the beginning.

Answer 1:48

2:52

Solution

	first box	second box
At the beginning	$24 \times 2 = 48$	$76 - 24 = 52$
After the first round	$100 - 76 = 24$	$(50 - 12) \times 2 = 76$
After the second round	50	50

Lesson 2

1 Fill in the blanks.

(1) Daniel can walk _____ meters in 5 minutes at a speed of 90 meters per minute.

(2) It takes Jack _____ minutes to walk 390 meters at a speed of 65 meters per minute.

(3)

If it takes William 4 minutes to walk 312 meters, then he walks _____ meters per minute on average.

Answer (1) 450

(2) 6

(3) 78

Solution (1) $5 \times 90 = 450$

(2) $390 \div 65 = 6$

(3) $312 \div 4 = 78$

2 City A is 448 miles away from City B. Justin drives a car from City A to City B and it takes him 7 hours. Justin takes another 5 hours to drive from City B to City C at the same speed. The distance between City B and City C is _____ miles.

Answer 320

Solution The speed of the car is $448 \div 7 = 64$ miles per hour, and the distance between City B and City C is $64 \times 5 = 320$ miles.

3 Tony walks from his home to the supermarket. He walks at a speed of 105 meters per minute for 6 minutes. Then he feels tired and walks at a speed of 70 meters per minute for 8 minutes and he arrives at the supermarket. The distance between Tony's home and the supermarket is _____ meters.

Answer 1190

Solution $105 \times 6 + 70 \times 8 = 1190$

1 In a survey of 100 residents, the report shows that 10 residents don't have any pets, the others have one dog or one cat or both. There are 35 residents who only have a dog and 60 residents who don't have a dog among these 100 people. How many residents only have a cat? How many residents have both a dog and a cat?

Answer 50; 5

Solution There are $100 - 60 = 40$ residents have a dog in their home. Among them, 35 people only have a dog, which means there are $40 - 35 = 5$ people have both a dog and a cat.

There are $100 - 10 - 35 - 5 = 50$ people who only have a cat.

2 As shown below, Judy uses 2, 3, and 4 identical sticks to make the 3 long sticks by gluing them together. Among the 3 long sticks, the lengths of the two shortest one are 100 cm and 140 cm, respectively. Thus, each overlapping segment has a length of _____ cm.

Answer 20

Solution $100 - (140 - 100) \times 2 = 20$ cm

3 Among $1 \sim 210$, how many different integers are multiples of either 3, or 7, or both?

Answer 90

Solution $210 \div 3 = 70$

$210 \div 7 = 30$

$210 \div (3 \times 7) = 10$

$30 + 70 - 10 = 90$