Chapter 6 Word Problems: Part 1

1. A class has 31 students. There are 5 more boys than girls. How many girls are there?

. Together Lucas and Beverly have $52. Beverly has $1 more than twice as much as Luca has. How much money does Beverly have?

3. Marco has 150 coins, all nickels and dimes. He has 12 more dimes than nickels. How many nickels and how many dimes does he have?

4. Tammy has 70 coins, all quarters and dimes. There are 30 more quarters than dimes. Find the number of each type of coin.

5. Alice has 136 nickels and dimes. She has 52 more nickels than dimes. How many of each coin does she have?

6. Dalton's age is half of Chen's. In ten years Chen's age will be three times what Dalton's was 5 years ago. What are their ages?

7. Tricia is 14 years older than Michella. In four years, Tricia will be twice as old as Michella. How old are they now?

8. Zeb is 5 years older than Yolanda. The sum of their ages is 41. How old are they?

Chapter 6 Word Problems: Part 2

1. A bus leaves Freeland traveling North at 60mph. One hour later a second car leaves Freeland traveling north on the ame road at 65mph. How far from Freeland will the faster car overtake the slower car?

2. A fishing boat traveled 3 hours against a 6 km/hr current. The return trip took only 2 hours. Find the speed of the boat in still water.

3. An airplane flew for 3 hours with a tail wind of 40 km/hr. The return flight against the same wind took 4 hours. Find the speed of the airplane in still air.

4. An airplane flew for 4 hours against a head wind of 40km/h. On the return flight the same wind was now a tail wind, and the flight took 3 hours. Find the speed of the airplane in still air.

5. A cyclist rode 3 hours with a tail wind of 6 km/h. The return trip against the head wind took 5 hours. Find the cyclist's speed in still air.

6. An airplane flew for 6 hours with a tail wind of 60 km/hr. The return flight against the same wind took 8 hours. Find the speed of the airplane in still air.

7. Two mopeds leave town at the same time going in opposite directions. One travels at 25km/h and the other travels 45km/h. In how many hours will they be 210 km apart?

8. Two cars leave town at the same time traveling in opposite directions. One travels 88 km/h and other travels 72 km/h. In how many hours will they be 400km apart?

. It takes Jim two hours less to ride his bike from Junction City to Farmington than it takes Dave. Jim rides at 20mi/h while Dave rides at 15mi/h. How far is it from Junction City to Farmington?

10. A speedboat travels against a 10km/h current for 5 hours. The return trip downstream takes 3 hours. What is the speed of the boat in still water?

11. Two cars leave at the same time, traveling in the same direction. One travels 55mi/h and the other at 67 mi/h. how many hours will they be 96 mi apart?

12. Bud takes a leisurely stroll. He walks at a constant rate of two miles per hour. Carrie starts out for a brisk walk one hour later. She walks at a constant rate of 3 miles per hour. How long will it take for Carrie to catch up with Bud?

13. Two cars leave town, traveling in opposite directions. The first car travels at 50 miles per hour and the second car travels at 60 miles per hour. How long will it take them to be 100 miles apart.

Chapter 6 Word Problems: Part 3

1. Halloween High is selling tickets to the annual haunted house. On the first day of ticket sales the school sold 4 senior citizen tickets and 5 student tickets for a total of $102. The school took in $126 on the second day by selling 7 senior citizen tickets and 5 student tickets. What is the price of one senior citizen ticket and one student ticket for the haunted house?

2. There were 150 tickets sold for a school play. Tickets for students were $2 and tickets for adults were $3. The total amount of money collected was $340. How many more students were sold than adult tickets?

3. The sum of the digits of a two-digit number is 10. If the digits are reversed, the new number is 36 less than the original. Find the original number.

4. The sum of the digits of a two-digit number is 15. If the digits are reversed, the new number is 27 less than the original. Find the original number.

5. The sum of the digits of a two-digit number is 11. If the digits are reversed, the new number is 27 more than the original. Find the original number.

6. The sum of the digits of a two-digit number is 12. If the digits are reversed, the new number is 54 more than the original. Find the original number.

7. A jar of nickels and dimes contains $3.30. There are 27 more nickels than dimes. How many of each are there?

8. A jar of nickels and dimes contains $6.75. There are 84 more nickels than dimes. How many of each are there?

9. A collection of nickels and quarters is worth $4.65. There are 3 more nickels than quarters. How many coins are there in the collection?

10. A collection of nickels and dimes is worth $3.95. There are 8 more dimes than nickels. How many coins are there in the collection?

11. A fork and a knife weigh 50 grams and 70 grams, respectively. If the set of knives and forks contains 20 implements and weighs 1220 grams, how many knives and forks are there?

Part I   { Answers }

✓ ① $b + g = 31$
    $5 + g = b$ There are 13 girls.

✓ ② $L + B = \$52$
    $B = 2L + 1$ Beverly has $35.

✓ ③ $n + d = 150$ There are 69 nickels
    $12 + n = d$ and 81 dimes.

✓ ④ $g + d = 70$ There are 50 quarters
    $30 + d = g$ and 20 dimes.

✓ ⑤ $n + d = 136$ There are 94 nickels
    $52 + d = n$ and 42 dimes.

✓ ⑥ $D = \frac{1}{2}C$ Chen is 50 years old
    $10 + C = 3(D - 5)$ and Dalton is 25
                               years old.

✓ ⑦ $T = 14 + M$ Tricia is 24 years old
    $T + 4 = 2(m + 4)$ and Michella is
                               10 years old.

✓ ⑧ $Z = 5 + y$ Zeb is 23 years old and
    $Z + y = 41$ Yolanda is 18 years
                               old.

Part II $\boxed{D = R \cdot T}$

✓① $d = 60(t+1)$
$d = 65t$

The faster car will overtake the slower car at 780 miles.

✓② $d = (r-6)3$
$d = (r+6)2$

The speed of the boat is 30 Km/hr.

✓③ $d = (r+40)3$
$d = (r-40)4$

The speed of the plane is 280 Km/hr.

✓④ $d = (r-40)4$
$d = (r+40)3$

The speed of the plane is 280 Km/hr.

✓⑤ $d = (r+6)3$
$d = (r-6)5$

The cyclist's speed was 24 Km/hr.

✓⑥ $d = (r+60)6$
$d = (r-60)8$

The speed of the plane is 420 Km/hr.

✓⑦ $210 = 25t + 45t$

It will take the 2 mopeds 3 hours to be 210 Km apart.

✓⑧ $400 = 88t + 72t$

It will take the cars 2½ hours to be 400 Km apart.

✓ ⑨ $d = 20(t-2)$
       $d = 15t$

Junction City is 120 mi away from Farmington.

✓ ⑩ $d = (r-10)5$
       $d = (r+10)3$

The speed of the boat is 40 km/hr.

✓ ⑪ $d + 96 = 67t$
       $d = 55t$

In 8 hours they will be 96 mi apart.

✓ ⑫ $d = 2(t+1)$
       $d = 3t$

Carrie will catch up to Bill in 2 hours.

✓ ⑬ $100 = 50t + 60t$

They will be 100 miles apart in about 54½ min. (or 10/11 of an hr.)

Part III

① $4c + 5s = 102$
$7c + 5s = 126$
A senior citizen ticket costs $8 and a student ticket costs $14.

✓② $s + a = 150$
$2s + 3a = 340$
There were 70 more student tickets sold than adult tickets. (40 adult tickets & 110 student tickets)

✓③ $f + s = 10$
$10s + f = 10f + s - 36$
The original number is 73.

④ $f + s = 15$
$10s + f = 10f + s - 27$
The original number is 96.

⑤ $f + s = 11$
$10s + f = 27 + 10f + s$
The original number is 47.

⑥ $f + s = 12$
$10s + f = 54 + 10f + s$
The original number is 39.

⑦ $0.05n + 0.10d = 3.30$
$27 + d = n$
There are 13 dimes & 40 nickels.

⑧ $0.05n + 0.10d = 6.75$
$84 + d = n$
There are 17 dimes & 101 nickels.

⑨ $0.05n + 0.25q = 4.65$

      $3 + q = n$

There are 33 coins in the collection.

(15 quarters & 18 nickels)

⑩ $0.05n + 0.10d = 3.95$

      $8 + n = d$

There are 29 dimes & 21 nickels.

(50 coins in all)

⑪ $f + K = 20$

      $50f + 70K = 1,220$

There are 9 forks and 11 knives.