

Money Problems with Totals Homework

1. Erika has \$10.65 made up of dimes and quarters. If there are 54 coins in total, how many dimes are there?
2. A bill of \$2.35 was paid in dimes and nickels. If there were 32 coins in all, how many of each kind were there?
3. Mary bought a radio for \$120. She paid for it with 10-dollar bills and 5-dollar bills. If there are 22 bills in all, how many of each kind are there?
4. A theatre sells adult tickets for \$35 and student tickets for \$25. If the theatre sells a total of 73 tickets and makes \$2265, how many of each type of ticket did they sell?
5. A fruit stand sells apples and peaches. The apples sell for \$0.25 each and the peaches sell for \$0.50 each. On Sunday, the fruit stand sold 60 pieces of fruit and made \$20.25. How many of each type of fruit did they sell?
6. Chris deposited \$4.50 in nickels, dimes and quarters into a piggy bank. The number of dimes exceeds the number of nickels by 5 and the number of quarters is one-fifth the number of nickels. How many of each are there?

ANSWERS:

1] 19 dimes, 35 quarters 2] 15 dimes, 17 nickels 3] 2 tens, 20 fives 4] 44 adults, 29 students 5] 39 apples, 21 peaches
6] 20 nickels, 25 dimes, 4 quarters

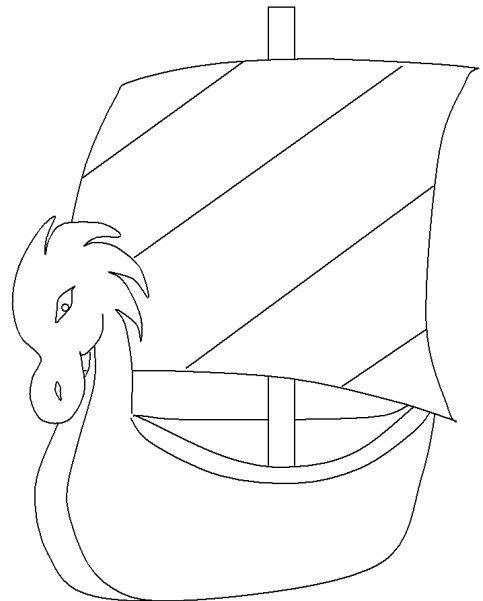
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Exercises - Solve the following problems

1. Terry has 2 more quarters than dimes. In all, he has \$6.80. How many of each kind of coin does he have?
2. In a pile of coins worth \$21.25, there are 15 more quarters than loonies. How many quarters are there?
3. A bill of \$2.35 was paid in dimes and nickels. If there are 32 coins in all, how many of each kind were used to pay the bill?
4. Laura Maria bought a radio for \$120 in \$10 bills and \$5 bills. If she has a total of 22 bills, how many bills of each kind does she have?
5. Kyle has \$21.90 in quarters and dimes. If he has a total of 117 coins, how many of each kind does he have?
6. Ava has \$4.85 in nickels, dimes and quarters. If Ava has 6 more nickels than dimes and twice as many quarters than dimes, how many of each kind does she have?
7. A piggy bank is full of nickels, dimes and quarters worth \$3.30. If there are three times as many nickels as quarters, and half as many dimes as nickels, how many of each kind are there?
8. Large pizzas cost \$12.50 and small pizzas cost \$9.00. The pizza shop sold 38 pizzas for a total of \$415.50. How many of each kind of pizza did the pizza shop sell?

Answers

- | | | |
|-----------------------|----------------|-------------|
| 1) 18d, 20q | 2) 29q | 3) 15d, 17n |
| 4) 2 - \$10, 20 - \$5 | 5) 68q, 49d | |
| 6) 7d, 13n, 14q | 7) 6q, 18n, 9d | |
| 8) 21 large; 17 small | | |



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Full Sol

1. Terry has 2 more quarters than dimes. In all, he has \$6.80. How many of each kind of coin does he have?

Let x be the number of dimes [Value: $10x$]
 Let $(x + 2)$ be the number of quarters [Value: $25(x + 2)$]

$$\begin{aligned} 10x + 25(x + 2) &= 680 \\ 10x + 25x + 50 &= 680 \\ 35x &= 680 - 50 \\ 35x &= 630 \\ \frac{35x}{35} &= \frac{630}{35} \\ x &= 18 \end{aligned}$$

Therefore there are 18 dimes and 20 quarters.

2. In a pile of coins worth \$21.25, there are 15 more quarters than loonies. How many quarters are there?

Let x be the number of loonies [Value: $100x$]
 Let $(x + 15)$ be the number of quarters [Value: $25(x + 15)$]

$$\begin{aligned} 100x + 25(x + 15) &= 2125 \\ 100x + 25x + 375 &= 2125 \\ 125x &= 2125 - 375 \\ 125x &= 1750 \\ \frac{125x}{125} &= \frac{1750}{125} \\ x &= 14 \end{aligned}$$

There are 29 quarters.

3. A bill of \$2.35 was paid in dimes and nickels. If there are 32 coins in all, how many of each kind were used to pay the bill?

Let x be the number of dimes [Value: $10x$]
 Let $(32 - x)$ be the number of nickels [Value: $5(32 - x)$]

$$\begin{aligned} 10x + 5(32 - x) &= 235 \\ 10x + 160 - 5x &= 235 \\ 5x &= 235 - 160 \\ 5x &= 75 \\ \frac{5x}{5} &= \frac{75}{5} \\ x &= 15 \end{aligned}$$

There are 15 dimes and 17 nickels used to pay the bill.

4. Laura Maria bought a radio for \$120 in \$10 bills and \$5 bills. If she has a total of 22 bills, how many bills of each kind does she have?

Let x be the number of \$10 bills [Value: $10x$]
 Let $(22 - x)$ be the number of \$5 bills [Value: $5(22 - x)$]

$$\begin{aligned} 10x + 5(22 - x) &= 120 \\ 10x + 110 - 5x &= 120 \\ 5x &= 120 - 110 \end{aligned}$$

$$\begin{aligned} 5x &= 10 \\ x &= 2 \end{aligned}$$

There are two \$10 bills and twenty \$5 bills.

5. Kyle has \$21.90 in quarters and dimes. If he has a total of 117 coins, how many of each kind does he have?

Let x be the number of quarters [Value: $25x$]
 Let $(117 - x)$ be the number of dimes [Value: $10(117 - x)$]

$$\begin{aligned} 25x + 10(117 - x) &= 2190 \\ 25x + 1170 - 10x &= 2190 \\ 15x &= 2190 - 1170 \\ 15x &= 1020 \\ \frac{15x}{15} &= \frac{1020}{15} \\ x &= 68 \end{aligned}$$

There are 68 quarters and 49 dimes.

6. Ava has \$4.85 in nickels, dimes and quarters. If Ava has 6 more nickels than dimes and twice as many quarters than dimes, how many of each kind does she have?

Let x be the number of dimes [Value: $10x$]
 Let $(x + 6)$ be the number of nickels [Value: $5(x + 6)$]
 Let $2x$ be the number of quarters [Value: $25(2x)$]

$$\begin{aligned} 10x + 5(x + 6) + 25(2x) &= 485 \\ 10x + 5x + 30 + 50x &= 485 \\ 65x &= 485 - 30 \\ 65x &= 455 \\ \frac{65x}{65} &= \frac{455}{65} \\ x &= 7 \end{aligned}$$

There are 7 dimes, 13 nickels and 14 quarters.

7. A piggy bank is full of nickels, dimes and quarters worth \$3.30. If there are three times as many nickels as quarters, and half as many dimes as nickels, how many of each kind are there?

Let x be the number of quarters [Value: $25x$]
 Let $(3x)$ be the number of nickels [Value: $5(3x)$]
 Let $\frac{1}{2}(3x)$ be the number of dimes [Value: $10(\frac{1}{2}(3x))$]

$$\begin{aligned} 25x + 5(3x) + 10(\frac{1}{2}(3x)) &= 330 \\ 25x + 15x + 5(3x) &= 330 \\ 25x + 15x + 15x &= 330 \\ 45x &= 330 \\ \frac{45x}{45} &= \frac{330}{45} \\ x &= 6 \end{aligned}$$

There are 6 quarters, 18 nickels and 9 dimes.

8. Large pizzas cost \$12.50 and small pizzas cost \$9.00. The pizza shop sold 38 pizzas for a total of \$415.50. How many of each kind of pizza did the pizza shop sell?

Let x be the number of large pizzas [Value: $12.50x$] (*working in dollars*)
 Let $(38 - x)$ be the number of small pizzas [Value: $9(38 - x)$]

$$\begin{aligned} 12.50x + 9(38 - x) &= 415.50 \\ 12.50x + 342 - 9x &= 415.50 \\ 3.50x &= 73.50 \\ x &= 21 \end{aligned}$$

They sold 21 large pizzas and 17 small pizzas.