

Module 7 Lesson 6

Try This 1 – 4 Possible Solutions

TT 1. Let q = the number of quarters. Let d = the number of dimes.

$$q + d = 32$$

$$0.25q + 0.10d = 5.90$$

TT 2. Answers may vary. You can solve this by elimination.

Multiply Equation 1 by 0.10.

$$0.10 \ q + d = 32 \quad \rightarrow \quad 0.10q + 0.10d = 3.20 \quad \leftarrow \text{Equation 1}$$

$$0.25q + 0.10d = 5.90 \quad \rightarrow \quad 0.25q + 0.10d = 5.90 \quad \leftarrow \text{Equation 2}$$

Subtract the equations to eliminate d .

$$\begin{array}{r} 0.10q + 0.10d = 3.20 \\ - (0.25q + 0.10d = 5.90) \\ \hline -0.15q \qquad \qquad = -2.70 \\ \frac{-0.15q}{-0.15} = \frac{-2.70}{-0.15} \\ q = 18 \end{array}$$

Solve for d by subbing $q = 18$ into equation (1)

$$q + d = 32$$

$$18 + d = 32$$

$$d = 14$$

There are 18 quarters and 14 dimes.

TT 3.

- a.** If there are 18 quarters and 14 dimes, then there are 32 coins altogether. The value of 18 quarters is $18 \times \$0.25 = \4.50 . The value of 14 dimes is $14 \times \$0.10 = \1.40 . The sum total is $\$4.50 + \$1.40 = \$5.90$. The solution complies with the conditions of the problem.

- b.**
- | | |
|----------------|-------------------------------|
| $q + d = 32$ | $0.25q + 0.1d = 5.90$ |
| $18 + 14 = 32$ | $0.25 \ 18 + 0.1 \ 14 = 5.90$ |
| $32 = 32$ | $4.50 + 1.40 = 5.90$ |
| | $5.90 = 5.90$ |

TT 4. Student answers will vary.