

**Code Breaker: Find the Missing Number**

For each problem, you are given the mean and some of the numbers in the data set. Find the missing number. SHOW YOUR WORK

- 1) Mean = 25  
Number of Data Points = 6  
Known Data Points = 20, 30, 28, 24, 18  
Missing Number = ????????

*Missing Number =*

- 2) Mean = 14  
Number of Data Points = 4  
Known Data Points = 17, 23, 6  
Missing Number = ????????

*Missing Number =*

- 3) Mean = 56  
Number of Data Points = 7  
Known Data Points = 64, 58, 43, 50, 55, 70  
Missing Number = ????????

*Missing Number =*

- 4) During a stretch of 5 games, Kobe Bryant averaged 42 points per game. In his first 4 games he scored 45, 48, 32, and 40 points. How many points did Kobe score in the last game?

*Missing Number =*

5) You look at 8 sweaters at American Eagle and the mean price is \$40. The first seven sweaters cost \$50, \$55, \$30, \$35, \$39, \$40, and \$42. How much does the eighth sweater cost?

*Missing Number =*

6) The table below shows the number of points scored by the winner of men's ski jumping competition during the Olympics from 1980 to 1994.

**MEN'S SKI JUMPING**

Year	Points
1980	266.3
1984	215.2
1988	230.5
1992	222.8
1994	282.0
1998	?

After the 1998 Olympics, the mean number of points scored by all winners since 1980 was 241.9. What was the winning number of points in 1998?

*Missing Number =*

7) Mr. Kuk has 15 students in his class and they all took a quiz last Friday. Unfortunately, Mr. Kuk lost one of the quizzes. He knows that the class had a mean quiz score of 74 and that the other 14 quiz scores are 70, 91, 76, 72, 80, 82, 58, 60, 75, 78, 88, 79, 83, and 66. What is the missing score?

*Missing Number =*

**Code Breaker: Find the Missing Number**

For each problem, you are given the mean and some of the numbers in the data set. Find the missing number. SHOW YOUR WORK

- 1) Mean = 25  
 Number of Data Points = 6  
 Known Data Points = 20, 30, 28, 24, 18  
 Missing Number = ????????

$$\begin{array}{rcl}
 20 & \xrightarrow{-5} & \\
 24 & \xrightarrow{-1} & \\
 18 & \xrightarrow{-7} & \\
 & & \boxed{25} \\
 & & \xrightarrow{+3} 28 \\
 & & \xrightarrow{+5} 30
 \end{array}$$

-13                      +8

Need +5

Missing Number = 30

- 2) Mean = 14  
 Number of Data Points = 4  
 Known Data Points = 17, 23, 6  
 Missing Number = ????????

$$\begin{array}{rcl}
 6 & \xrightarrow{-8} & \\
 & & \boxed{14} \\
 & & \xrightarrow{+3} 17 \\
 & & \xrightarrow{+9} 23
 \end{array}$$

-8                      +12

Need -4

Missing Number = 10

- 3) Mean = 56  
 Number of Data Points = 7  
 Known Data Points = 64, 58, 43, 50, 55, 70  
 Missing Number = ????????

$$\begin{array}{rcl}
 43 & \xrightarrow{-13} & \\
 50 & \xrightarrow{-6} & \\
 55 & \xrightarrow{-1} & \\
 & & \boxed{56} \\
 & & \xrightarrow{+8} 64 \\
 & & \xrightarrow{+2} 58 \\
 & & \xrightarrow{+14} 70
 \end{array}$$

-20                      +24

Need -4

Missing Number = 52

- 4) During a stretch of 5 games, Kobe Bryant averaged 42 points per game. In his first 4 games he scored 45, 48, 32, and 40 points. How many points did Kobe score in the last game?

$$\begin{array}{rcl}
 32 & \xrightarrow{-10} & \\
 40 & \xrightarrow{-2} & \\
 & & \boxed{42} \\
 & & \xrightarrow{+6} 48 \\
 & & \xrightarrow{+3} 45
 \end{array}$$

-10                      +9

Needs +3

Missing Number = 45

5) You look at 8 sweaters at American Eagle and the mean price is \$40. The first seven sweaters cost \$50, \$55, \$30, \$35, \$39, \$40, and \$42. How much does the eighth sweater cost?

Handwritten calculation for problem 5:

$$\begin{array}{r}
 30 \quad -10 \quad 40 \quad +10 \quad 50 \\
 35 \quad -5 \quad \boxed{40} \quad +15 \quad 55 \\
 39 \quad -1 \quad \quad \quad +2 \quad 42 \\
 \hline
 -16 \quad \quad \quad +27
 \end{array}$$

Missing Number = ~~31~~ 29

Need - 11

6) The table below shows the number of points scored by the winner of men's ski jumping competition during the Olympics from 1980 to 1994.

**MEN'S SKI JUMPING**

Year	Points
1980	266.3
1984	215.2
1988	230.5
1992	222.8
1994	282.0
1998	?

Handwritten calculation for problem 6:

$$1216.8 + x = 241.9 \cdot 6$$

Handwritten calculation for problem 6:

$$1216.8 + x = 1451.4$$

Handwritten calculation for problem 6:

$$x = 234.6 \text{ pts}$$

Handwritten calculation for problem 6:

$$+ = 1216.8$$

After the 1998 Olympics, the mean number of points scored by all winners since 1980 was 241.9. What was the winning number of points in 1998?

Missing Number = 234.6

7) Mr. Kuk has 15 students in his class and they all took a quiz last Friday. Unfortunately, Mr. Kuk lost one of the quizzes. He knows that the class had a mean quiz score of 74 and that the other 14 quiz scores are 70, 91, 76, 72, 80, 82, 58, 60, 75, 78, 88, 79, 83, and 66. What is the missing score?

Handwritten calculation for problem 7:

$$\begin{array}{r}
 -4 \quad 70 \\
 -2 \quad 72 \\
 -16 \quad 58 \\
 -14 \quad 60 \\
 -8 \quad 66 \\
 \hline
 -44
 \end{array}$$

Handwritten calculation for problem 7:

$$\boxed{74}$$

Handwritten calculation for problem 7:

$$\begin{array}{r}
 +17 \quad 91 \quad 79 +5 \\
 +2 \quad 76 \quad 83 +9 \\
 +6 \quad 80 \\
 +8 \quad 82 \\
 +1 \quad 75 \\
 +4 \quad 78 \\
 +14 \quad 88
 \end{array}$$

Missing Number = 52

Handwritten calculation for problem 7:

$$+66$$

Need - 22