



Crack the Vault Code

Someone locked the vault with a 4-digit code. Work out what each shape is worth and crack it.

Name: _____ Date: _____

1 THE KEY

$$\blacklozenge = 13 \quad \star = \square \quad + = 8 \quad \text{☾} = 12 \quad \text{⬡} = \square \quad \boxed{?} = \square$$

Every symbol is a whole number from 1 to 15. A number in front of a shape means multiply: 2 stars = 2 x star.

2 FIND THE MISSING VALUES

Some shapes in the key are missing. Use these to work them out, in order, and write them into the key.

$$\star + + = 23$$

$$4 \blacksquare = 24$$

$$\bullet \times + = 24$$

3 CRACK THESE

$$1. \ 10 \bullet - + = \square$$

$$2. \ (\blacklozenge + +) \times \blacksquare = \square$$

CODE 1

$$3. \ 100 \bullet + \blacksquare = \square$$

$$4. \ 3 \blacklozenge + 2 \blacksquare = \square$$

CODE 2

$$5. \ 10 + - \star = \square$$

$$6. \ 100 + + \text{☾} = \square$$

CODE 3

$$7. \ \text{☾} \times \blacksquare + \star = \square$$

$$8. \ \blacklozenge \times \text{☾} + + = \square$$

CODE 4

$$9. \ \star \times + - \bullet = \square$$

$$10. \ \star \times \bullet = \square$$

4 THE VAULT CODE

Write the ONES digit of your answers to problems 2, 4, 6, 8 (the ones tagged CODE 1-4), in that order. That opens the vault.

Answer Key

Crack the Vault Code · Grade 4 Crack the Code

The key

 diamond = **13**
  star = **15** (hidden)
  cross = **8**
  moon = **12**
  hexagon = **3** (hidden)
 square = **6** (hidden)

Every symbol is a whole number from 1 to 15.

- | | | |
|-----|--|------------|
| 1. | $10 \times \text{hexagon} - \text{cross}$ | 22 |
| 2. | $(\text{diamond} + \text{cross}) \times \text{square}$ | 126 |
| 3. | $100 \times \text{hexagon} + \text{square}$ | 306 |
| 4. | $3 \times \text{diamond} + 2 \times \text{square}$ | 51 |
| 5. | $10 \times \text{cross} - \text{star}$ | 65 |
| 6. | $100 \times \text{cross} + \text{moon}$ | 812 |
| 7. | $\text{moon} \times \text{square} + \text{star}$ | 87 |
| 8. | $\text{diamond} \times \text{moon} + \text{cross}$ | 164 |
| 9. | $\text{star} \times \text{cross} - \text{hexagon}$ | 117 |
| 10. | $\text{star} \times \text{hexagon}$ | 45 |

Vault code: **6 1 2 4**