



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

$$\blacklozenge = 2 \quad \blacksquare = 6 \quad \textcircled{?} = \square \quad \bigcirc = 5 \quad \text{☾} = 12 \quad \text{⊕} = \square$$

Every symbol is a whole number from 1 to 12. 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.

$$\text{⊕} + \text{⊕} = 14$$

$$\bullet + \bullet = 8$$

3 CRACK THESE

$$1. \quad 2\blacklozenge + \bigcirc = \square$$

$$2. \quad 10\bullet + \text{⊕} = \square$$

CODE 1

$$3. \quad 5\blacklozenge - \bullet = \square$$

$$4. \quad 3\bigcirc - \blacklozenge = \square$$

CODE 2

$$5. \quad 3\blacksquare - \text{⊕} = \square$$

$$6. \quad 2\text{☾} + \text{⊕} = \square$$

CODE 3

$$7. \quad 10\text{⊕} + \blacklozenge = \square$$

$$8. \quad 5\text{⊕} - \text{☾} = \square$$

CODE 4

$$9. \quad \blacksquare \times \bullet + \bigcirc = \square$$

$$10. \quad \text{⊕} \times \bullet + \bigcirc = \square$$

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 3 Crack the Code

The key

 pentagon = **2**
  square = **6**
  circle = **4** (hidden)
  ring = **5**
  moon = **12**
 cross = **7** (hidden)

Every symbol is a whole number from 1 to 12.

- | | | |
|-----|---|-----------|
| 1. | $2 \text{ pentagon} + 1 \text{ ring}$ | 9 |
| 2. | $10 \text{ circle} + 7 \text{ cross}$ | 47 |
| 3. | $5 \text{ pentagon} - 1 \text{ circle}$ | 6 |
| 4. | $3 \text{ ring} - 1 \text{ pentagon}$ | 13 |
| 5. | $3 \text{ square} - 7 \text{ cross}$ | 11 |
| 6. | $2 \text{ moon} + 7 \text{ cross}$ | 31 |
| 7. | $10 \text{ cross} + 1 \text{ pentagon}$ | 72 |
| 8. | $5 \text{ cross} - 1 \text{ moon}$ | 23 |
| 9. | $1 \text{ square} \times 1 \text{ circle} + 1 \text{ ring}$ | 29 |
| 10. | $7 \text{ cross} \times 1 \text{ circle} + 1 \text{ ring}$ | 33 |

Vault code: 7 3 1 3