



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

$$\bullet = 8 \quad \blacklozenge = 6 \quad \bigcirc = 4 \quad \star = \square \quad \diamond = \square \quad + = 10$$

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.

$$2\star = 18$$

$$\blacklozenge + \blacklozenge = 10$$

3 CRACK THESE

$$1. \star \times \blacklozenge - \blacklozenge = \square$$

$$2. 10\bullet + + = \square$$

CODE 1

$$3. + \times \blacklozenge + \star = \square$$

$$4. + \times \star = \square$$

CODE 2

$$5. 2\blacklozenge + \bigcirc = \square$$

$$6. 3\blacklozenge - \bigcirc = \square$$

CODE 3

$$7. 5\bigcirc - \bullet = \square$$

$$8. \bullet \times + = \square$$

CODE 4

$$9. 3\bullet - + = \square$$

$$10. \blacklozenge + \blacklozenge + \star = \square$$

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

 circle = 8
  pentagon = 6
  ring = 4
  star = 9 (hidden)
  diamond = 5 (hidden)

 cross = 10

Every symbol is a whole number from 1 to 12.

- | | | |
|-----|--|----|
| 1. | $\star \times \text{pentagon} - \text{diamond}$ (star x pentagon - diamond) | 49 |
| 2. | $10 \times \text{circle} + \text{cross}$ (10 x circle + cross) | 90 |
| 3. | $\text{cross} \times \text{diamond} + \text{star}$ (cross x diamond + star) | 59 |
| 4. | $\text{cross} \times \text{star}$ (cross x star) | 90 |
| 5. | $2 \times \text{pentagon} + \text{ring}$ (2 x pentagon + ring) | 16 |
| 6. | $3 \times \text{pentagon} - \text{ring}$ (3 x pentagon - ring) | 14 |
| 7. | $5 \times \text{ring} - \text{circle}$ (5 x ring - circle) | 12 |
| 8. | $\text{circle} \times \text{cross}$ (circle x cross) | 80 |
| 9. | $3 \times \text{circle} - \text{cross}$ (3 x circle - cross) | 14 |
| 10. | $\text{diamond} + \text{pentagon} + \text{star}$ (diamond + pentagon + star) | 20 |

Vault code: **0 0 4 0**