

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

$$\bullet = 7 \quad \heartsuit = 8 \quad \bigcirc = 11 \quad \triangle = \boxed{} \quad \diamond = \boxed{} \quad \blacksquare = 3$$

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.

$$\blacklozenge + \blacklozenge + \blacklozenge = 12$$

$$\blacktriangle + \bullet = 16$$

3 CRACK THESE

$$1. \quad \blacktriangle \times \bigcirc + \blacksquare = \boxed{}$$

$$2. \quad \bigcirc + \bullet + \blacktriangle = \boxed{}$$

CODE 1

$$3. \quad 3\blacklozenge - \heartsuit = \boxed{}$$

$$4. \quad 10\bigcirc + \blacksquare = \boxed{}$$

CODE 2

$$5. \quad \bullet + \blacklozenge + \heartsuit = \boxed{}$$

$$6. \quad 3\bigcirc - \blacklozenge = \boxed{}$$

CODE 3

$$7. \quad \blacktriangle \times \bigcirc = \boxed{}$$

$$8. \quad 10\blacklozenge + \bullet = \boxed{}$$

CODE 4

$$9. \quad 2\bullet + \blacklozenge = \boxed{}$$

$$10. \quad \blacklozenge \times \bigcirc = \boxed{}$$

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 = **7**
  heart = **8**
  ring = **11**
  triangle = **9** (hidden)
  diamond = **4** (hidden)
 square = **3**

Every symbol is a whole number from 1 to 12.

- | | | |
|-----|---|------------|
| 1. | $\triangle \times \bigcirc + \blacksquare$ (triangle x ring + square) | 102 |
| 2. | $\bigcirc + \bullet + \triangle$ (ring + circle + triangle) | 27 |
| 3. | $3\blacklozenge - \heartsuit$ (3 x diamond - heart) | 4 |
| 4. | $10\bigcirc + \blacksquare$ (10 x ring + square) | 113 |
| 5. | $\bullet + \blacklozenge + \heartsuit$ (circle + diamond + heart) | 19 |
| 6. | $3\bigcirc - \blacklozenge$ (3 x ring - diamond) | 29 |
| 7. | $\triangle \times \bigcirc$ (triangle x ring) | 99 |
| 8. | $10\blacklozenge + \bullet$ (10 x diamond + circle) | 47 |
| 9. | $2\bullet + \blacklozenge$ (2 x circle + diamond) | 18 |
| 10. | $\blacklozenge \times \bigcirc$ (diamond x ring) | 44 |

Vault code: **7397**