



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

$$\text{☾} = 4 \quad \text{⬠} = 11 \quad \text{♥} = 9 \quad \text{⚡} = \boxed{} \quad \text{☆} = \boxed{} \quad \text{●} = 12$$

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.

$$5 \text{ ⚡} = 10$$

$$\text{★} + \text{★} + \text{★} = 30$$

3 CRACK THESE

$$1. \text{ ♥} \times \text{☾} = \boxed{}$$

$$2. 10 \text{ ★} + \text{⬠} = \boxed{}$$

CODE 1

$$3. \text{ ♥} \times \text{★} + \text{●} = \boxed{}$$

$$4. \text{ ☾} \times \text{●} + \text{⚡} = \boxed{}$$

CODE 2

$$5. 3 \text{ ⚡} - \text{☾} = \boxed{}$$

$$6. \text{ ♥} \times \text{⬠} = \boxed{}$$

CODE 3

$$7. 10 \text{ ●} + \text{☾} = \boxed{}$$

$$8. 2 \text{ ♥} + \text{●} = \boxed{}$$

CODE 4

$$9. 5 \text{ ⬠} - \text{●} = \boxed{}$$

$$10. \text{ ●} + \text{⬠} + \text{★} = \boxed{}$$

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

 moon = 4
  pentagon = 11
  heart = 9
  lightning bolt = 2 (hidden)
  star = 10 (hidden)

 circle = 12

Every symbol is a whole number from 1 to 12.

- | | | |
|-----|--|-----|
| 1. |  x  (heart x moon) | 36 |
| 2. | 10  +  (10 x star + pentagon) | 111 |
| 3. |  x  +  (heart x star + circle) | 102 |
| 4. |  x  +  (moon x circle + lightning bolt) | 50 |
| 5. | 3  -  (3 x lightning bolt - moon) | 2 |
| 6. |  x  (heart x pentagon) | 99 |
| 7. | 10  +  (10 x circle + moon) | 124 |
| 8. | 2  +  (2 x heart + circle) | 30 |
| 9. | 5  -  (5 x pentagon - circle) | 43 |
| 10. |  +  +  (circle + pentagon + star) | 33 |

Vault code: 1 0 9 0