



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

$$\text{⚡} = 8 \quad \text{?} = \square \quad \text{☾} = 4 \quad \text{?} = \square \quad \text{⊕} = \square \quad \text{★} = 16$$

Every symbol is a whole number from 1 to 20. 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.

$$\text{⊕} \times \text{☾} = 24$$

$$2 \blacksquare + \text{★} = 56$$

$$\bullet^2 = 361$$

3 CRACK THESE

$$1. \text{☾} \times \text{⚡} - \text{⊕} = \square$$

$$2. \bullet \times \text{⚡} - \blacksquare \times \text{☾} = \square$$

CODE 1

$$3. 10 \text{★} - \text{⚡} = \square$$

$$4. (\text{☾} + \blacksquare) \times \text{★} = \square$$

CODE 2

$$5. \blacksquare \times \text{★} \times \bullet = \square$$

$$6. \text{☾} + \text{⚡} \times \text{⊕} = \square$$

CODE 3

$$7. 3 \text{★} + 2 \blacksquare = \square$$

$$8. \text{★} \times (\text{⊕} - \text{☾}) = \square$$

CODE 4

$$9. \text{★} \times \text{⚡} - \text{⊕} \times \text{☾} = \square$$

$$10. \text{★} \times \blacksquare + \text{☾} \times \bullet = \square$$

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 5 Crack the Code

The key

⚡ lightning bolt = 8 ● circle = 19 (hidden) ☾ moon = 4 ■ square = 20 (hidden) ✚ cross = 6 (hidden)
 ★ star = 16

Every symbol is a whole number from 1 to 20.

1. $\text{☾} \times \text{⚡} - \text{✚}$ (moon x lightning bolt - cross) 26
2. $\text{●} \times \text{⚡} - \text{■} \times \text{☾}$ (circle x lightning bolt - square x moon) 72
3. $10 \text{★} - \text{⚡}$ (10 x star - lightning bolt) 152
4. $(\text{☾} + \text{■}) \times \text{★}$ ((moon + square) x star) 384
5. $\text{■} \times \text{★} \times \text{●}$ (square x star x circle) 6080
6. $\text{☾} + \text{⚡} \times \text{✚}$ (moon + lightning bolt x cross) 52
7. $3 \text{★} + 2 \text{■}$ (3 x star + 2 x square) 88
8. $\text{★} \times (\text{✚} - \text{☾})$ (star x (cross - moon)) 32
9. $\text{★} \times \text{⚡} - \text{✚} \times \text{☾}$ (star x lightning bolt - cross x moon) 104
10. $\text{★} \times \text{■} + \text{☾} \times \text{●}$ (star x square + moon x circle) 396

Vault code: **2 4 2 2**