



Haunted Manor Code Breaker

Calculate the hidden values of the cursed symbols to unlock the ancient iron crypt.

Name: _____ Date: _____

1 THE KEY

$$\begin{array}{l} \boxed{?} = \boxed{} \quad \text{⚡} = \boxed{} \quad \triangle = \boxed{} \quad \bigcirc = 10 \quad \blacklozenge = 8 \\ \text{?} = \boxed{} \end{array}$$

Every symbol is a whole number from 1 to 20. A number in front of a shape means multiply: 2 stars = 2 x star. A small 2 after a shape means square it: star² = star 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.

$$\blacksquare \times \bigcirc - \blacklozenge = 32$$

$$\blacktriangle \times \bigcirc - \blacksquare = 116$$

$$\bullet - \bigcirc = 6$$

$$\text{⚡}^2 = 361$$

3 CRACK THESE

$$1. \blacklozenge^2 + \bullet = \boxed{}$$

$$2. \bigcirc^2 + \blacktriangle = \boxed{}$$

CODE 1

$$3. 3\blacksquare - 2\blacklozenge + \blacktriangle = \boxed{}$$

$$4. \blacksquare^3 = \boxed{}$$

CODE 2

$$5. \text{⚡}^2 - \bigcirc^2 = \boxed{}$$

$$6. (\blacklozenge - \blacksquare) \times (\blacklozenge + \blacksquare) = \boxed{}$$

CODE 3

$$7. 3\bullet - 2\bigcirc + \blacktriangle = \boxed{}$$

$$8. \blacktriangle^3 = \boxed{}$$

CODE 4

$$9. \text{⚡} \times \bigcirc - \blacklozenge^2 = \boxed{}$$

$$10. 2 \times (\bullet + \blacksquare) - \bigcirc = \boxed{}$$

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 ancient iron crypt.

Answer Key

Haunted Manor Code Breaker · Grade 6 Crack the Code

The key

 square = 4 (hidden)
  lightning bolt = 19 (hidden)
  triangle = 12 (hidden)
  ring = 10
 pentagon = 8
 circle = 16 (hidden)

Every symbol is a whole number from 1 to 20.

- | | | |
|-----|--|------|
| 1. | $\text{pentagon}^2 + \text{circle}$ | 80 |
| 2. | $\text{ring}^2 + \text{triangle}$ | 112 |
| 3. | $3 \times \text{square} - 2 \times \text{pentagon} + \text{triangle}$ | 8 |
| 4. | square^3 | 64 |
| 5. | $\text{lightning bolt}^2 - \text{ring}^2$ | 261 |
| 6. | $(\text{pentagon} - \text{square}) \times (\text{pentagon} + \text{square})$ | 48 |
| 7. | $3 \times \text{circle} - 2 \times \text{ring} + \text{triangle}$ | 40 |
| 8. | triangle^3 | 1728 |
| 9. | $\text{lightning bolt} \times \text{ring} - \text{pentagon}^2$ | 126 |
| 10. | $2 \times (\text{circle} + \text{square}) - \text{ring}$ | 30 |

Vault code: **2 4 8 8**