

Pearl Palace Code Breaker

Determine the numerical value of each ocean symbol to solve the math equations and find the secret combination.

Name: _____ Date: _____

1 THE KEY

$$\blacksquare = 8 \quad \bigcirc = 9 \quad \heartsuit = 12 \quad \text{pentagon with ?} = \boxed{} \quad \text{circle with ?} = \boxed{} \quad \text{lightning bolt} = 4$$

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.

$$\bullet + \bullet = 10$$

$$\blacksquare - \heartsuit = 5$$

3 CRACK THESE

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

$$2. \bigcirc \times \text{lightning bolt} = \boxed{}$$

CODE 1

$$3. 3\bullet - \text{lightning bolt} = \boxed{}$$

$$4. 5\text{pentagon} - \heartsuit = \boxed{}$$

CODE 2

$$5. 3\bigcirc - \heartsuit = \boxed{}$$

$$6. 2\text{pentagon} + \text{lightning bolt} = \boxed{}$$

CODE 3

$$7. 5\bigcirc - \heartsuit = \boxed{}$$

$$8. \heartsuit \times \blacksquare + \text{lightning bolt} = \boxed{}$$

CODE 4

$$9. \text{pentagon} \times \heartsuit = \boxed{}$$

$$10. \bullet \times \text{pentagon} - \text{lightning bolt} = \boxed{}$$

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 clam shell vault.

Answer Key

Pearl Palace Code Breaker · Grade 3 Crack the Code

The key

 square = **8**
  ring = **9**
  heart = **12**
  pentagon = **3** (hidden)
  circle = **5** (hidden)

 lightning bolt = **4**

Every symbol is a whole number from 1 to 12.

- | | | |
|-----|--|------------|
| 1. |  x  +  (square x heart + ring) | 105 |
| 2. |  x  (ring x lightning bolt) | 36 |
| 3. | 3  -  (3 x circle - lightning bolt) | 11 |
| 4. | 5  -  (5 x pentagon - heart) | 3 |
| 5. | 3  -  (3 x ring - heart) | 15 |
| 6. | 2  +  (2 x pentagon + lightning bolt) | 10 |
| 7. | 5  -  (5 x ring - heart) | 33 |
| 8. |  x  +  (heart x square + lightning bolt) | 100 |
| 9. |  x  (pentagon x heart) | 36 |
| 10. |  x  -  (circle x pentagon - lightning bolt) | 11 |

Vault code: **6300**