

1.3 Puzzle Time

What Do You Give A Dog That Loves Computers?

Write the letter of each answer in the box containing the exercise number.

Simplify the expression. Write the answer as a power.

1. $\frac{8^{12}}{8^6} = 8^6$ S
 2. $\frac{3^{24}}{3^{15}} = 3^9$ E
 3. $\frac{7^{14}}{7^4} = 7^{10}$ O
 4. $\frac{3^7}{3^4} = 3^3$ Y
 5. $\frac{4^{12}}{4^5} = 4^7$ I
 6. $\frac{9^8}{9^3} = 9^5$ E
 7. $\frac{3^4 \cdot 3^5}{3^2 \cdot 3^2} = \frac{3^9}{3^4} = 3^5$ T
 8. $\frac{8^{15}}{8^7 \cdot 8} = \frac{8^{15}}{8^8} = 8^7$ G
 9. $\frac{4^5 \cdot 4^9}{4^3 \cdot 4^3} = \frac{4^{14}}{4^6} = 4^8$ S
 10. $\frac{9^{14} \cdot 9^5}{9^7} = \frac{9^{19}}{9^7} = 9^{12}$ O
 11. $\frac{7^3 \cdot 7^9}{7^2 \cdot 7^1} = \frac{7^{12}}{7^3} = 7^9$ D
 12. $\frac{3^{18} \cdot 3^8}{3^9 \cdot 3^6} = \frac{3^{26}}{3^{15}} = 3^{11}$ G

13. There are about $4 \cdot 10^5$ known species of beetles. The number of known species of caddis flies is about 10^4 . How many times more species of beetles are there than caddis flies?

14. The area of the Pacific Ocean is approximately $64 \cdot 10^6$ square miles. The area of the Gulf of Mexico is approximately 10^5 square miles. How many times greater is the area of the Pacific Ocean than the area of the Gulf of Mexico?

Answers

- Y. 3^3
- D. 9^{12}
- I. 4^7
- D. 7^9
- E. 9^5
- E. 3^9
- T. 40
- G. 8^7
- O. 7^{10}
- S. 4^8
- S. 8^6
- K. 640
- T. 3^5
- G. 3^8

$$\frac{64 \cdot 10^6}{10^5} = 64 \cdot 10^1 = 640$$

$$13. \frac{4 \cdot 10^5}{10^4} = 4 \cdot 10^1 = 40$$

11	3	8	12	4		10	5	9	14	6	7	13	2	1
D	O	G	G	Y		D	I	S	K	E	T	T	E	S