Finding Relative Value with Powers of Ten Name:

Solve each problem. Answer as a decimal (if necessary).

1) 2×10^7 is _____ × the value of 8×10^2

2) 9×10^6 is _____ × the value of 6×10^4

3) 3×10^4 is _____ × the value of 8×10^5

4) 7×10^8 is _____ × the value of 9×10^4

5) 2×10^4 is _____ × the value of 3×10^9

6) 8×10^7 is _____ × the value of 9×10^3

7) 9×10^4 is _____ × the value of 3×10^5

8) 4×10^8 is _____ × the value of 5×10^5

9) 7×10^2 is _____ × the value of 9×10^5

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

1-9	89	78	67	56	44	33	22	11	0

Finding Relative Value with Powers of Ten Name: **Answer Key**

Solve each problem. Answer as a decimal (if necessary).

1) 2×10^7 is _____ × the value of 8×10^2

$$\frac{2 \times 10^7}{8 \times 10^2} = \frac{2}{8} \times \frac{10^7}{10^2} = \frac{1}{4} \times 10^5 = 0.25 \times 10^5$$

2) 9×10^6 is _____ × the value of 6×10^4

$$\frac{9 \times 10^6}{6 \times 10^4} = \frac{9}{6} \times \frac{10^6}{10^4} = \frac{3}{2} \times 10^2 = 1.5 \times 10^2$$

3) 3×10^4 is _____ × the value of 8×10^5

$$\frac{3 \times 10^4}{8 \times 10^5} = \frac{3}{8} \times \frac{10^4}{10^5} = \frac{3}{8} \times 10^{-1} = 0.375 \times 10^{-1}$$

4) 7×10^8 is _____ × the value of 9×10^4

$$\frac{7 \times 10^8}{9 \times 10^4} = \frac{7}{9} \times \frac{10^8}{10^4} = \frac{7}{9} \times 10^4 = 0.778 \times 10^4$$

5) 2×10^4 is _____ × the value of 3×10^9

$$\frac{2 \times 10^4}{3 \times 10^9} = \frac{2}{3} \times \frac{10^4}{10^9} = \frac{2}{3} \times 10^{-5} = 0.667 \times 10^{-5}$$

6) 8×10^7 is _____ × the value of 9×10^3

$$\frac{8 \times 10^7}{9 \times 10^3} = \frac{8}{9} \times \frac{10^7}{10^3} = \frac{8}{9} \times 10^4 = 0.889 \times 10^4$$

7) 9×10^4 is _____ × the value of 3×10^5

$$\frac{9 \times 10^4}{3 \times 10^5} = \frac{9}{3} \times \frac{10^4}{10^5} = \frac{3}{1} \times 10^{-1} = 3 \times 10^{-1}$$

8) 4×10^8 is _____ × the value of 5×10^5

$$\frac{4 \times 10^8}{5 \times 10^5} = \frac{4}{5} \times \frac{10^8}{10^5} = \frac{4}{5} \times 10^3 = 0.8 \times 10^3$$

9) 7×10^2 is _____ × the value of 9×10^5

$$\frac{7 \times 10^2}{9 \times 10^5} = \frac{7}{9} \times \frac{10^2}{10^5} = \frac{7}{9} \times 10^{-3} = 0.778 \times 10^{-3}$$

Answers

1. **25,000**
2. **150**
3. **0.0375**
4. **7,780**
5. **0.00000667**
6. **8,890**
7. **0.3**
8. **800**
9. **0.000778**

1-9	89	78	67	56	44	33	22	11	0