Finding Relative Value with Powers of Ten

Name:

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

1) 3×10^6 is _____ × the value of 9×10^8

2) 3×10^3 is _____ × the value of 7×10^5

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

4) 7×10^2 is _____ × the value of 2×10^5

5) 8×10^9 is _____ × the value of 3×10^6

6) 4×10^8 is _____ × the value of 7×10^2

7) 8×10^5 is _____ × the value of 4×10^3

8) 7×10^8 is _____ × the value of 4×10^5

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

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

$\frac{3 \times 10^6}{9 \times 10^8} = \frac{3}{9} \times \frac{10^6}{10^8} = \frac{1}{3} \times 10^{-2} = 0.333 \times 10^{-2}$

2) 3×10^3 is _____ × the value of 7×10^5

$\frac{3 \times 10^3}{7 \times 10^5} = \frac{3}{7} \times \frac{10^3}{10^5} = \frac{3}{7} \times 10^{-2} = 0.429 \times 10^{-2}$

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

$\frac{7 \times 10^3}{3 \times 10^6} = \frac{7}{3} \times \frac{10^3}{10^6} = \frac{7}{3} \times 10^{-3} = 2.333 \times 10^{-3}$

4) 7×10^2 is _____ × the value of 2×10^5

$\frac{7 \times 10^2}{2 \times 10^5} = \frac{7}{2} \times \frac{10^2}{10^5} = \frac{7}{2} \times 10^{-3} = 3.5 \times 10^{-3}$

5) 8×10^9 is _____ × the value of 3×10^6

$\frac{8 \times 10^9}{3 \times 10^6} = \frac{8}{3} \times \frac{10^9}{10^6} = \frac{8}{3} \times 10^{3} = 2.667 \times 10^{3}$

6) 4×10^8 is _____ × the value of 7×10^2

$\frac{4 \times 10^8}{7 \times 10^2} = \frac{4}{7} \times \frac{10^8}{10^2} = \frac{4}{7} \times 10^{6} = 0.571 \times 10^{6}$

7) 8×10^5 is _____ × the value of 4×10^3

$\frac{8 \times 10^5}{4 \times 10^3} = \frac{8}{4} \times \frac{10^5}{10^3} = \frac{2}{1} \times 10^{2} = 2 \times 10^{2}$

8) 7×10^8 is _____ × the value of 4×10^5

$\frac{7 \times 10^8}{4 \times 10^5} = \frac{7}{4} \times \frac{10^8}{10^5} = \frac{7}{4} \times 10^{3} = 1.75 \times 10^{3}$

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

$\frac{5 \times 10^3}{4 \times 10^2} = \frac{5}{4} \times \frac{10^3}{10^2} = \frac{5}{4} \times 10^{1} = 1.25 \times 10^{1}$

Answers

1. **0.00333**
2. **0.00429**
3. **0.002333**
4. **0.0035**
5. **2,667**
6. **571,000**
7. **200**
8. **1,750**
9. **12.5**

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