Finding Relative Value with Powers of Ten

Name:

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

1) 4×10^5 is _____ × the value of 2×10^4

2) 6×10^3 is _____ × the value of 3×10^7

3) 6×10^5 is _____ × the value of 2×10^3

4) 6×10^5 is _____ × the value of 3×10^8

5) 2×10^5 is _____ × the value of 7×10^8

6) 6×10^2 is _____ × the value of 7×10^9

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

8) 5×10^5 is _____ × the value of 6×10^2

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

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

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

2) 6×10^3 is _____ × the value of 3×10^7

$\frac{6 \times 10^3}{3 \times 10^7} = \frac{6}{3} \times \frac{10^3}{10^7} = \frac{2}{1} \times 10^{-4} = 2 \times 10^{-4}$

3) 6×10^5 is _____ × the value of 2×10^3

$\frac{6 \times 10^5}{2 \times 10^3} = \frac{6}{2} \times \frac{10^5}{10^3} = \frac{3}{1} \times 10^2 = 3 \times 10^2$

4) 6×10^5 is _____ × the value of 3×10^8

$\frac{6 \times 10^5}{3 \times 10^8} = \frac{6}{3} \times \frac{10^5}{10^8} = \frac{2}{1} \times 10^{-3} = 2 \times 10^{-3}$

5) 2×10^5 is _____ × the value of 7×10^8

$\frac{2 \times 10^5}{7 \times 10^8} = \frac{2}{7} \times \frac{10^5}{10^8} = \frac{2}{7} \times 10^{-3} = 0.286 \times 10^{-3}$

6) 6×10^2 is _____ × the value of 7×10^9

$\frac{6 \times 10^2}{7 \times 10^9} = \frac{6}{7} \times \frac{10^2}{10^9} = \frac{6}{7} \times 10^{-7} = 0.857 \times 10^{-7}$

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

$\frac{3 \times 10^8}{9 \times 10^3} = \frac{3}{9} \times \frac{10^8}{10^3} = \frac{1}{3} \times 10^5 = 0.333 \times 10^5$

8) 5×10^5 is _____ × the value of 6×10^2

$\frac{5 \times 10^5}{6 \times 10^2} = \frac{5}{6} \times \frac{10^5}{10^2} = \frac{5}{6} \times 10^3 = 0.833 \times 10^3$

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

$\frac{8 \times 10^8}{3 \times 10^9} = \frac{8}{3} \times \frac{10^8}{10^9} = \frac{8}{3} \times 10^{-1} = 2.667 \times 10^{-1}$

Answers

1. **20**
2. **0.0002**
3. **300**
4. **0.002**
5. **0.000286**
6. **0.0000000857**
7. **33,300**
8. **833**
9. **0.2667**

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