Basic Concepts in Chemistry class 11

 **SaitechAI**

Here's the answer key for the significant figures multiplication and division worksheet, with each answer rounded to the correct number of significant figures based on the input with the fewest significant figures:

Answer Key:

1. **(3.245 x 10^3) × (2.1 x 10^2) = 6814.5**
    - Rounded to two significant figures (because 2.1 has two significant figures): **6.8 x 10^3**
2. **(6.082 x 10^1) ÷ (2.2 x 10^0) = 27.64545455**
    - Rounded to two significant figures (because 2.2 has two significant figures): **28**
3. **(7.56 x 10^-2) × (5.2 x 10^4) = 393.12**
    - Rounded to two significant figures (because 5.2 has two significant figures): **3.9 x 10^2**
4. **(9.7 x 10^0) ÷ (3.0 x 10^-1) = 32.33333333**
    - Rounded to two significant figures (because 3.0 has two significant figures): **32**
5. **(2.45 x 10^-3) × (3.99 x 10^3) × (6.1 x 10^0) = 59.69695**
    - Rounded to three significant figures (because 2.45 has three significant figures): **59.7**
6. **(8.23 x 10^4) ÷ (4.1 x 10^1) = 2007.317073**
    - Rounded to three significant figures (because 8.23 has three significant figures): **2.01 x 10^3**
7. **(5.333 x 10^0) × (1.2 x 10^2) = 640**
    - Rounded to two significant figures (because 1.2 has two significant figures): **6.4 x 10^2**
8. **(1.001 x 10^3) ÷ (3.5 x 10^1) = 28.6**
    - Rounded to two significant figures (because 3.5 has two significant figures): **29**
9. **(2.56 x 10^-5) × (7.0 x 10^2) = 0.001792**
    - Rounded to two significant figures (because 7.0 has two significant figures): **1.8 x 10^-3**
10. **(4.567 x 10^3) ÷ (2.0 x 10^2) = 22.835**

- Rounded to two significant figures (because 2.0 has two significant figures): **23**

This key should help verify the correctness of students' calculations and their understanding of how to properly apply significant figure rules in multiplication and division.