

Accuracy and percent difference

Problem

1. A physics student measured the acceleration of gravity to be 9.75 m/s^2 . The accepted value is 9.80 m/s^2 . What is the percent difference?

(3 marks)

2. A physicist finds the mass of the mass of an electron to be $8.92 \times 10^{-31} \text{ kg}$. The accepted value is $9.11 \times 10^{-31} \text{ kg}$. What is the percent difference?

(3 marks)

3. A scientist measures the radius of the Earth to be $5.98 \times 10^6 \text{ m}$. The accepted value is $6.38 \times 10^6 \text{ m}$. What is the percent difference?

(3 marks)

4. An astronomer measures the mass of the moon to be $6.52 \times 10^{22} \text{ kg}$. The accepted value is $7.35 \times 10^{22} \text{ kg}$. What is the percent difference?

(3 marks)

**Accuracy and percent difference
Answer Section****PROBLEM**

1. ANS:

$$9.80 - 9.75 = 0.05$$

$$.05 / 9.80 \times 100 = 0.5\%$$

PTS: 3

DIF: K

OBJ: A2

KEY: accuracy

2. ANS:

$$9.11 - 8.92 = 0.19$$

$$0.19 / 9.11 \times 100 = 2.1\%$$

PTS: 3

DIF: K

OBJ: A2

KEY: accuracy

3. ANS:

$$6.38 - 5.98 = 0.4$$

$$0.4 / 6.38 * 100 = 6.3\%$$

PTS: 3

DIF: K

OBJ: A2

KEY: accuracy

4. ANS:

$$7.35 - 6.52 = 0.83$$

$$0.83 / 7.35 * 100 = 11.3\%$$

PTS: 3

DIF: K

OBJ: A2

KEY: accuracy