

PHYSICAL SCIENCES SAMPLE PLACEMENT EXAM (KEY)

1. Calculate the following quantities. Your answer must have the correct number of figures in each case.

$$\frac{a}{b} =$$

$$a + b =$$

$$a * b =$$

$$a * b^2 =$$

where $a = 3.00 \times 10^{+5}$ and $b = 2.000 \times 10^{-1}$

$$\ln(e^{2.455}) =$$

where $e = 2.7182818284590455235360287\dots$ is the natural logarithm base.

2. Calculate the area of a square in meters if its size is 3.0 in (1 in = 2.54 cm)
3. A car is driven 850 miles. If it had gone 5.0 miles per hour faster it would have made the trip in 2.0 hr less time. What was the speed?
4. Solve

$$\frac{he}{8mL^5} = E$$

for L .

PHYSICAL SCIENCES SAMPLE PLACEMENT EXAM (KEY)

1. Calculate the following quantities. Your answer must have the correct number of figures in each case.

$$\frac{a}{b} = 1.50 \times 10^6$$

$$a + b = 3.00 \times 10^{+5}$$

$$a * b = 6.00 \times 10^{+4}$$

$$a * b^2 = 1.2 \times 10^{+4}$$

where $a = 3.00 \times 10^{+5}$ and $b = 2.000 \times 10^{-1}$

$$\ln(e^{2.455}) = 2.455$$

where $e = 2.7182818284590455235360287\dots$ is the natural logarithm base.

2. Calculate the area of a square in meters if its size is 3.0 in (1 in = 2.54 cm)
($5.8 \times 10^{-3} \text{ m}^2$).
3. A car is driven 850 miles. If it had gone 5.0 miles per hour faster it would have made the trip in 2.0 hr less time. What was the speed?
(44 mi/hr)
4. Solve

$$\frac{he}{8mL^5} = E$$

for L .

$$L = \sqrt[5]{\frac{he}{8mE}}$$