

Using a calculator effectively

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|-----|---|-----|--|-----|--|
| 1. | $\frac{7.351 \times 0.764}{1.847}$ | 2. | $\frac{0.0741 \times 9.61}{23.1}$ | 3. | $\frac{4.22}{1.701 \times 5.2}$ |
| 4. | $\frac{5.71 + 6.093}{9.05 - 5.77}$ | 5. | $\frac{8.06}{5.91} - \frac{1.594}{1.62}$ | 6. | $4.2 \left(\frac{1}{5.5} - \frac{1}{7.6} \right)$ |
| 7. | $\left(\frac{9.6}{2.4} - \frac{1.5}{0.74} \right)^2$ | 8. | $\sqrt{\frac{4.2 \times 1.611}{9.81 \times 1.74}}$ | 9. | $\left(\frac{1.63}{1.7 - 0.911} \right)^2$ |
| 10. | $\frac{0.761^2 - \sqrt{9.61}}{1.91^2}$ | 11. | $\sqrt[3]{\frac{1.74 \times 0.761}{0.0896}}$ | 12. | $\left(\frac{8.6 \times 1.71}{0.43} \right)^3$ |

Extension :

13. The period of a pendulum is given by:

$$T = 2\pi \sqrt{\frac{l}{g}} \quad \text{where, } T \text{ is the period (the time of one complete swing of the pendulum)}$$

l is the length of the pendulum in m

g is the acceleration due to gravity (and has a value of 9.81 ms^{-2})

Now, if the period is 1s, what is the length of the pendulum? Hint: make the l the subject first.

Answers:

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|----|-------------|-----|--------------|-----|-------------|
| 1. | 3.040695181 | 7. | 3.892622352 | 13. | 0.248490202 |
| 2. | 0.030826883 | 8. | 0.629597924 | | |
| 3. | 0.477094921 | 9. | 4.26796847 | | |
| 4. | 3.59847561 | 10. | -0.691011485 | | |
| 5. | 0.379839568 | 11. | 2.454004182 | | |
| 6. | 0.211004784 | 12. | 40001.688 | | |

The answers above do not seem practical. Do you have a suggestion to make them more practical?