Typical test questions

1.. Calculate the result of the expression: $\frac{2 \cdot 10^{-2} \cdot 10^{6}}{0{,}5 \cdot 10^{9}}$

A: 10^{-1} **B:** 10^{-5} **C:** $4 \cdot 10^{-5}$ **D:** $4 \cdot 10^{13}$

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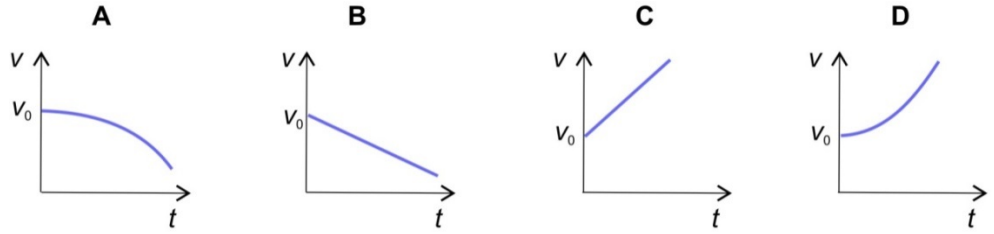
2. A stone is thrown up and we suppose that gravitation is the only force acting on it. Which figure shows the correct change in the stone's velocity during its elevation?



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3. Which answer shows the prefixes in the correct order of magnitude?

1 – kilo, 2 – tera, 3 – femto, 4 - pico

A: 2-1-4-3

B: 2-1-3-4

C: 1-2-3-4

D: 1-2-4-3

4.. A train accelerates from a speed of 8 km/h to 116 km/h during one minute. What is its acceleration?

A: $30\,\frac{\mathrm{m}}{\mathrm{s}^2}$ **B:** $0{,}5\,\frac{\mathrm{m}}{\mathrm{s}^2}$ **C:** $0{,}14\,\frac{\mathrm{m}}{\mathrm{s}^2}$ **D:** $8{,}33\,\frac{\mathrm{m}}{\mathrm{s}^2}$

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5. A pilot of 90 kg catapults horizontally at a height of 4000 m from an airplane. What is his altitude 15 s after he pressed the catapult button, if we suppose that he falls freely?
$\left(g = 10\,\frac{\mathrm{m}}{\mathrm{s}^2}\right)$.

A: 3925 m **B:** 2875 m **C:** 1125 m **D:** 75 m

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6. Which one of these phrases is included in Newton's first law?

A: … until another object will compel it to change its motion

B: … acceleration of an object and the force acting on the object are proportional to each other

C: … forces always appear in pairs

D: … object remains in equilibrium if the net force …

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7. Which is the correct form of force given with base units? $1\ \mathrm{N} =$

A: $1\,\frac{\mathrm{kg}\cdot\mathrm{m}^2}{\mathrm{s}^3}$ **B:** $1\,\frac{\mathrm{kg}}{\mathrm{m}\cdot\mathrm{s}^2}$ **C:** $1\,\frac{\mathrm{kg}\cdot\mathrm{m}}{\mathrm{s}^2}$ **D:** $1\,\frac{\mathrm{kg}\cdot\mathrm{m}^2}{\mathrm{s}^2}$

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8. Which is the correct phrase to finish the sentence? Density of a body is independent of…

A: …the material of body.

B: …the temperature of body.

C: …outer pressure.

D: …the shape of body.

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9. What is the power, if the work done during 1 minute is 120 kJ?

A: 120 kW **B:** 120 W **C:** 2 kW **D:** 2 W
