This print-out should have 7 questions. Multiple-choice questions may continue on the next column or page – find all choices before answering.

Acceleration Conversion
001 10.0 points

Convert an acceleration of 1.9 mi/h/s to $\mathrm{m/s^2}$.

Answer in units of $\mathrm{m/s^2}$.

Angle Conversion
002 10.0 points

Convert 40.6° to radians.

Answer in units of rad.

Block Density
003 10.0 points

A block of material has dimensions 3.5 cm by 6.6 cm by 5.7 cm. Its mass is 626 g.

What is the density?

Answer in units of $\mathrm{g/cm^3}$.

Conversion 01
004 10.0 points

Which conversion factor would you use to change 18 kilometers to meters?

1. $\dfrac{1\text{ km}}{100\text{ m}}$

2. $\dfrac{1000\text{ m}}{1\text{ km}}$

3. $\dfrac{1\text{ km}}{1000\text{ m}}$

4. $\dfrac{100\text{ m}}{1\text{ km}}$

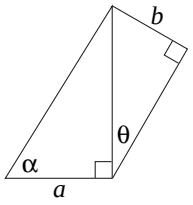
Distance Conversion
005 10.0 points

Convert 65.2 mi/h to m/s. 1 mi = 1609 m.

Answer in units of m/s.

Trig Practice 03
006 10.0 points

For the given triangles, $a = 14.2$ m, $b = 7.94$ m, and $\alpha = 58.4^\circ$.



Find θ.

Answer in units of $^\circ$.

AB 1993 MC 11
007 10.0 points

The acceleration of a particle moving along the x-axis at time t is given by $a(t) = 6t - 2$.

If the velocity is 25 when $t = 3$ and the position is 10 when $t = 1$, then find the position $x(t)$.

1. $x(t) = 3t^2 - 2t + 4$

2. $x(t) = 9t^2 + 1$

3. $x(t) = 36t^3 - 4t^2 - 77t + 55$

4. $x(t) = t^3 - t^2 + 9t - 20$

5. $x(t) = t^3 - t^2 + 4t + 6$