

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

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**Acceleration Conversion**

**001 10.0 points**

Convert an acceleration of 1.9 mi/h/s to m/s<sup>2</sup>.

Answer in units of m/s<sup>2</sup>.

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**Angle Conversion**

**002 10.0 points**

Convert 40.6° to radians.

Answer in units of rad.

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**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 g/cm<sup>3</sup>.

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**Conversion 01**

**004 10.0 points**

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

1.  $\frac{1 \text{ km}}{100 \text{ m}}$
  2.  $\frac{1000 \text{ m}}{1 \text{ km}}$
  3.  $\frac{1 \text{ km}}{1000 \text{ m}}$
  4.  $\frac{100 \text{ m}}{1 \text{ km}}$
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**Distance Conversion**

**005 10.0 points**

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

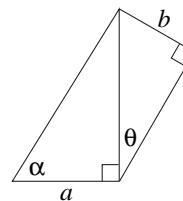
Answer in units of m/s.

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**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  $\theta$ .

Answer in units of °.

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