This print-out should have 8 questions. Multiple-choice questions may continue on the next column or page – find all choices before answering.

**001 (part 1 of 3) 10.0 points**

Solve the system of linear equations

$$\begin{cases} x - 2y + 3z = -1 \\ 4x + 5y + z = -11 \\ -x + y - 2z = 2 \end{cases}$$

What is the value of $z$?

**002 (part 2 of 3) 10.0 points**

What is the value of $y$?

**003 (part 3 of 3) 10.0 points**

What is the value of $x$?

**004 10.0 points**

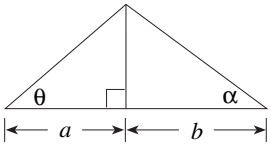
Use the quadratic formula to solve

$$-373.5 = 6\,t - \frac{9}{2}\,t^2\,.$$

What is the larger of the solutions?

**005 10.0 points**

For the given triangles, $a = 39.1$ m, $b = 23.8$ m, and $\alpha = 38.3°$.




Find $\theta$.
Answer in units of °.

**006 10.0 points**

Find the derivative $f'(x)$ for

$$f(x) = 2x^2 + x - 1$$

starting from first principles.

**1.** $2x - 1$

**2.** $4x + 1$

**3.** $4x - 1$

**4.** $2x + 1$

**5.** Does not exist

**007 10.0 points**

What is the integral of $fx$=$x$ ? Recall that the integral is the inverse of the derivative or that the derivative of $Fx = fx$ (Hint: the derivative of $x^2 = 2x$).

What is the area under $fx$ between $x$ = -1 and $x$ = 1?

1. $Fx = 0.5x^2$ ; Area = 0

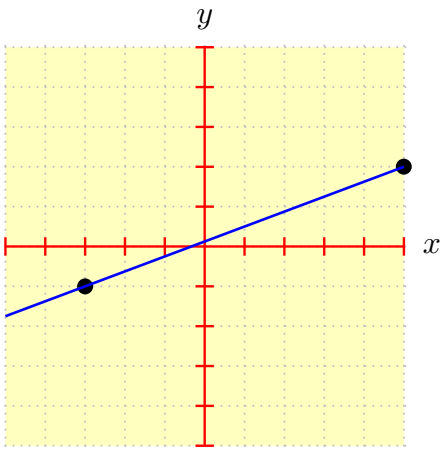
2. $Fx = 0.5x^2$ ; Area = 1

3. $Fx = x^2$ ; Area = 2

4. $Fx = x^2$ ; Area = 0

**008 10.0 points**

A graph of a straight line going through two points is shown below.




What is the equation of this line?

**1.** $y = \dfrac{-8}{3}\,x + \dfrac{1}{8}$

**2.** $y = \dfrac{3}{8}\,x + \dfrac{1}{8}$

**3.** $y = \dfrac{8}{3}\,x + \dfrac{1}{8}$

**4.** $y = \dfrac{3}{8}\,x - \dfrac{1}{8}$

**5.** $y = \dfrac{3}{8}\,x - \dfrac{1}{3}$

**6.** $y = \dfrac{3}{8}\,x + \dfrac{1}{3}$

**7.** $y = \dfrac{8}{3}\,x + \dfrac{1}{3}$

**8.** $y = \dfrac{-8}{3}\,x - \dfrac{1}{8}$

**9.** $y = \dfrac{-3}{8}\,x + \dfrac{1}{8}$

**10.** $y = \dfrac{-3}{8}\,x - \dfrac{1}{3}$