

## Math Self Test

1. Determine  $\sqrt[4]{10^{12}}$ .
  - a.  $10^3$
  - b.  $\frac{10^{12}}{4}$
  - c.  $10^{12.25}$
  - d.  $(10/4)^{12}$
  - e.  $10^6$
2. Solve the following equation for  $x$ :  $2 \log x = y + 6$ 
  - a.  $10^y$
  - b.  $10^y/2 + 6$
  - c.  $1000 \cdot 10^{y/2}$
  - d.  $10 \cdot 10^{y/2}$
  - e.  $1000 \cdot 10^{y+6}$
3. Obtain an expression for  $y$  if  $3x + 2y = 4$  and  $3xy = 1$ .
  - a.  $2 \pm \sqrt{2}$
  - b.  $1 \pm 1/\sqrt{2}$
  - c.  $2$
  - d.  $\sqrt{2} \pm 2$
  - e.  $1/\sqrt{2} \pm 2$
4. If  $\sin \theta = \alpha/\beta$  then  $\cos \theta$  is
  - a.  $1/\beta$
  - b.  $\beta/\alpha$
  - c.  $\sqrt{1 - \alpha^2/\beta^2}$
  - d.  $\sqrt{\alpha^2 + \beta^2}/\beta$