Math 41
Quiz 4
October 27, 2010

1. Use a calculator, if necessary, to evaluate, round to three decimal places, if necessary.

a) $2^{0.5} \approx$ $\boxed{1.414}$ f.y.i $2^{0.5} = 2^{1/2} = \sqrt{2}$

b) $8^{-\frac{2}{3}} =$ $\boxed{\frac{1}{4}}$ $8^{-2/3} = \frac{1}{8^{2/3}} = \frac{1}{(\sqrt[3]{8})^2} = \frac{1}{2^2}$

c) $500(0.75)^{10} \approx$ $\boxed{28.157}$

d) $\dfrac{200}{1+2e^{-0.5}} \approx$ $\boxed{90.373}$

2. Use the appropriate formula: $A = P\left(1+\frac{r}{n}\right)^{nt}$ or $A = Pe^{rt}$

Find the amount in an account (rounded to the nearest penny) if \$25,000 is deposited and earning 3% interest for 10 years and the interest is compounded,

a) monthly.

$A = P\left(1+\frac{r}{n}\right)^{nt}$

$A = 25{,}000\left(1+\frac{0.03}{12}\right)^{(12)(10)}$

$\approx \$33{,}733.84$

b) continuously.

$A = Pe^{rt}$

$A = 25{,}000\,e^{(0.03)(10)}$

$\approx \$33{,}746.47$