Review

October-30-13
12:36 PM

used 2009-3

1. Express in fraction or radial form then evaluate.
   a. $(-4)^{-2}$
   b. $125^{\frac{-2}{3}}$

2. Simplify. Express answers with positive exponents.
   a. $\left[(2a^2)^{(3-p)}\right]\left(\frac{2}{a}\right)^p$
   b. $\left(\frac{(x^{18})^{\frac{-1}{6}}}{\sqrt[5]{243x^{10}}}\right)^2$

3. $g(x) = 4 - 2\left(\frac{1}{3}\right)^{0.5x+1}$

   (a) State parent and transformations
   (b) Rewrite so that there is no k or d in the equation
   (c) State new parent and transformation
   (d) Sketch using (c) Label HA and y-int

4. Determine an equation for the following.

x	y
7	216
14	180
21	150
28	125
35	$104.1\overline{6}$

HA $y=0$

5. The temperature of a cup of hot coffee decreases by 30% every 15 minutes. What is the temperature of 69°C cup of coffee after 1 hour?

6. A ball fell from a shelf 200 cm above the ground. It bounced to a height of two-fifths its previous height. It continued to bounce to a height two-fifths of its previous height. How many bounces will be required to reach a bounce less than 1 cm?

7. Show how $\sqrt{5}\sqrt{5\sqrt{5}}$ can be written as a single power of 5.

8. Solve

a) $(5)(5)^{x+2} = 25^{2x}$

b) $\left[\frac{1}{2}\right]^{4x+1} = \left[\frac{1}{4}\right]^{3x+3}$

c) $3^{(x+3)} - 3^{x} = 78$

d) $6^{r} = 51$

e) $-54 = 10 - (m-10)^{\frac{3}{2}}$