Name: _____ **Show work needed to justify your answer.** Date: _____

HW: # 38a: Math IBSL - Standard 37 - Exponents

5 points

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1 Write each expression in radical form:

a $7^{\frac{1}{2}}$ **b** $2^{\frac{3}{5}}$ **c** $6^{\frac{3}{2}}$

d $2^{\frac{5}{4}}$ **e** $5^{-\frac{1}{2}}$ **f** $(3x)^{-\frac{3}{2}}$

g $3x^{-\frac{3}{2}}$

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2 Write each expression in exponential form:

a $\sqrt{10}^{3}$ **b** $\sqrt[5]{a^{6}}$ **c** $\sqrt[3]{m^{7}}$

d $\frac{1}{\sqrt{5x}}$ **e** $\frac{1}{\sqrt[4]{(2d)^{5}}}$ **f** $3\sqrt{x}$

g $\frac{3}{\sqrt{x}}$

Name: _____ **Show work needed to justify your answer.** Date: _____

HW: # 38a: Math IBSL - Standard 37 - Exponents 5 points

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1 Solve each equation:

a $2^x = 16$ **b** $10^x = 1\,000\,000$

c $2^{x+1} = 64$ **d** $3^{2x-1} = 27$

e $3^{1-2x} = 1$ **f** $3 \times 2^x = 48$

g $4^{x+2} = \frac{1}{64}$ **h** $\sqrt[4]{3} = 9^x$

i $\left(\frac{1}{5}\right)^x = 25$ **j** $2^x = 2\sqrt{2}$

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2 Convert to the same base and solve each equation:

a $2^{x+3} = 4^{x-2}$ **b** $5^{x-3} = 25^{x-4}$

c $6^{2x-6} = 36^{3x-5}$ **d** $9^{5x+2} = \left(\frac{1}{3}\right)^{11-x}$