Math worksheet on *'Exponents - Negative Fractional Exponents with Integer Base - Explanation to Answe (Level 2)'*. Part of a broader unit on *'Exponents - Negative Bases and Exponents - Practice'*

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1 Given the hint, what is the fractional exponent the same as?

$$9^{(\frac{-1}{2})} \cdot 9^{(\frac{-1}{2})} = \frac{1}{9}$$

$$9^{(\frac{-1}{2})} = ?$$

a $\sqrt[3]{9}$ **b** $\frac{1}{3}$ **c** $\frac{1}{3^2}$ **d** $\frac{1}{9^2}$ **e** $\frac{1}{2}$ **f** $\frac{1}{4}$

2 Given the hint, what is the fractional exponent the same as?

$$16^{(\frac{-1}{2})} \cdot 16^{(\frac{-1}{2})} = \frac{1}{16}$$

$$16^{(\frac{-1}{2})} = ?$$

a $\frac{1}{4^2}$ **b** $\frac{1}{4}$ **c** $\frac{1}{5}$ **d** $\frac{1}{3}$ **e** $\frac{1}{16^2}$ **f** $\sqrt[3]{16}$

3 Given the hint, what is the fractional exponent the same as?

$$25^{(\frac{-1}{2})} \cdot 25^{(\frac{-1}{2})} = \frac{1}{25}$$

$$25^{(\frac{-1}{2})} = ?$$

a $\frac{1}{5}$ **b** $\sqrt[3]{25}$ **c** $\frac{1}{25^2}$ **d** $\frac{1}{6}$ **e** $\frac{1}{5^2}$ **f** $\frac{1}{4}$

4 Given the hint, what is the fractional exponent the same as?

$$8^{(\frac{-1}{3})} \cdot 8^{(\frac{-1}{3})} \cdot 8^{(\frac{-1}{3})} = \frac{1}{8}$$

$$8^{(\frac{-1}{3})} = ?$$

a $\frac{1}{2^2}$ **b** $\frac{1}{8^2}$ **c** $\frac{1}{3}$ **d** $\frac{1}{2}$ **e** $\sqrt[4]{8}$ **f** $\frac{1}{1}$

5 Given the hint, what is the fractional exponent the same as?

$$64^{(\frac{-1}{3})} \cdot 64^{(\frac{-1}{3})} \cdot 64^{(\frac{-1}{3})} = \frac{1}{64}$$

$$64^{(\frac{-1}{3})} = ?$$

a $\frac{1}{4^2}$ **b** $\frac{1}{5}$ **c** $\frac{1}{64^2}$ **d** $\sqrt[4]{64}$ **e** $\frac{1}{4}$ **f** $\frac{1}{3}$

6 Given the hint, what is the fractional exponent the same as?

$$27^{(\frac{-1}{3})} \cdot 27^{(\frac{-1}{3})} \cdot 27^{(\frac{-1}{3})} = \frac{1}{27}$$

$$27^{(\frac{-1}{3})} = ?$$

a $\sqrt[4]{27}$ **b** $\frac{1}{4}$ **c** $\frac{1}{3}$ **d** $\frac{1}{2}$ **e** $\frac{1}{27^2}$ **f** $\frac{1}{3^2}$

7 Given the hint, what is the fractional exponent the same as?

$$16^{(\frac{-1}{4})} \cdot 16^{(\frac{-1}{4})} \cdot 16^{(\frac{-1}{4})} \cdot 16^{(\frac{-1}{4})} = \frac{1}{16}$$

$$16^{(\frac{-1}{4})} = ?$$

a $\sqrt[5]{16}$ **b** $\frac{1}{16^2}$ **c** $\frac{1}{2}$ **d** $\frac{1}{1}$ **e** $\frac{1}{3}$ **f** $\frac{1}{2^2}$