Math worksheet on *'Exponents - Negative Fractional Exponents with Integer Base - Explanation to Radical (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?

$$216^{(\frac{-1}{3})} \cdot 216^{(\frac{-1}{3})} \cdot 216^{(\frac{-1}{3})} = \frac{1}{216}$$

$$216^{(\frac{-1}{3})} = ?$$

a	b	c	d	e	f
$\frac{1}{1}$	$\frac{1}{5\sqrt[3]{216}}$	$\sqrt[3]{216}$	$\frac{1}{\sqrt[3]{216}}$	$\frac{1}{\sqrt[3]{216^2}}$	$\frac{1}{3\sqrt[3]{216}}$

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

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

$$4^{(\frac{-1}{2})} \cdot 4^{(\frac{-1}{2})} = \frac{1}{4}$$

$$4^{(\frac{-1}{2})} = ?$$

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

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

$$125^{(\frac{-1}{3})} \cdot 125^{(\frac{-1}{3})} \cdot 125^{(\frac{-1}{3})} = \frac{1}{125}$$

$$125^{(\frac{-1}{3})} = ?$$

a	b	c	d	e	f
$\frac{1}{1}$	$\frac{1}{5\sqrt[3]{125}}$	$\frac{1}{3\sqrt[3]{125}}$	$\frac{1}{2\sqrt[3]{125}}$	$\frac{1}{4\sqrt[3]{125}}$	$\frac{1}{\sqrt[3]{125}}$

5 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	b	c	d	e	f
$\frac{1}{\sqrt{4}}$	$\frac{1}{\sqrt{9}}$	$\frac{1}{5\sqrt{9}}$	$\frac{1}{1}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{4\sqrt{9}}$

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

$$32^{(\frac{-1}{5})} \cdot 32^{(\frac{-1}{5})} \cdot 32^{(\frac{-1}{5})} \cdot 32^{(\frac{-1}{5})} \cdot 32^{(\frac{-1}{5})} = \frac{1}{32}$$

$$32^{(\frac{-1}{5})} = ?$$

a	b	c	d	e	f
$\frac{1}{1}$	$\frac{1}{4\sqrt[5]{32}}$	$\frac{1}{\sqrt[5]{2}}$	$\frac{1}{\sqrt[5]{32}}$	$\frac{1}{5\sqrt[5]{32}}$	$\frac{1}{2\sqrt[5]{32}}$

7 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	b	c	d	e	f
$\frac{1}{\sqrt{4}}$	$\frac{1}{\sqrt{16}}$	$\frac{1}{4\sqrt{16}}$	$\frac{1}{5\sqrt{16}}$	$\frac{1}{1}$	$\frac{1}{\sqrt{16^2}}$