

First Name: \_\_\_\_\_

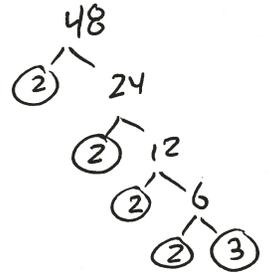
Last Name: \_\_\_\_\_

L06 - Math 10C - 4.4 - Entire to Mixed Radicals Formative Quiz

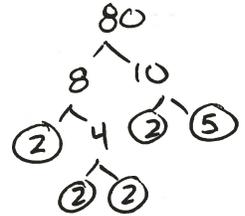
Convert from an entire to a mixed radical.

Eg:  $\sqrt{20} = 2\sqrt{5}$   
 Entire      Mixed

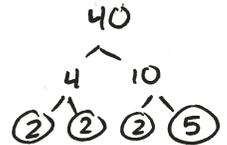
Q1:  $\sqrt{48} = \sqrt{2^4 \cdot 3} = \sqrt{2^2 \cdot 2^2 \cdot 3} = 2 \cdot 2 \sqrt{3} = 4\sqrt{3}$



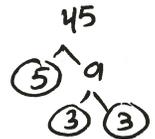
Q2:  $\sqrt{80x^7} = \sqrt{2^4 \cdot 5 \cdot x^7} = \sqrt{2^2 \cdot 2^2 \cdot 5 \cdot x^2 \cdot x^2 \cdot x^2 \cdot x} = 2 \cdot 2 \cdot x \cdot x \cdot x \sqrt{5x} = 4x^3 \sqrt{5x}$



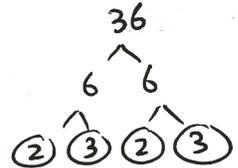
Q3:  $\sqrt[3]{40x^5y^4} = \sqrt[3]{2^3 \cdot 5 \cdot x^5 y^4} = \sqrt[3]{2^3 \cdot 5 \cdot x^3 \cdot x^2 \cdot y^3 \cdot y} = 2xy \sqrt[3]{5x^2y}$



Q4:  $\sqrt{45x^2y} = \sqrt{3^2 \cdot 5 \cdot x^2 \cdot y} = \sqrt{3^2 \cdot 5 \cdot x^2 \cdot y} = 3x \sqrt{5y}$



Q5:  $\sqrt{\frac{36}{7}} = \sqrt{\frac{2^2 \cdot 3^2}{7}} = 2 \cdot 3 \sqrt{\frac{1}{7}} = 6\sqrt{\frac{1}{7}}$



KEY

Q6: The entire radical  $\sqrt[3]{54x^4y^3}$  can be converted into a mixed radical. This mixed radical takes the form  $ax^by^c\sqrt{2}$ , where  $a$ ,  $b$ , and  $c$  are \_\_, \_\_, and \_\_.

(Record your three digit answer in the Numerical Response boxes below)

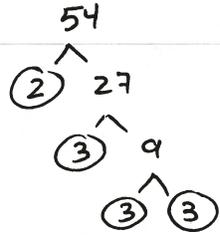
3	1	1	
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$$\sqrt[3]{2 \cdot 3^3 \cdot x^3 \cdot x \cdot y^3}$$

$$3xy\sqrt[3]{2x}$$

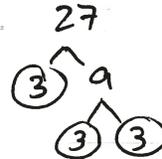


$$\begin{array}{l} 3x^1y^1 \\ ax^by^c \end{array} \quad \text{so } \begin{array}{l} a=3 \\ b=1 \\ c=1 \end{array}$$



Q7: (Long Answer) Convert  $(27x^2)^{1/3}$  into a mixed radical. (2 marks)

$$\begin{aligned} (27x^2)^{1/3} &= \sqrt[3]{27x^2} \\ &= \sqrt[3]{3^3 \cdot x^2} \\ &= 3\sqrt[3]{x^2} \end{aligned}$$



**MARKING:**

Beginning	0.0 – 3.5
Progressing	4.0 – 5.5
Competent	6.0 – 7.5
Exemplary	8.0