STATION #1

1. Write as an exponent $\sqrt[5]{x^8}$

2. Write as a base with a single exponent: $\left(k^{1/3}\right)^{1/2}$

3. Simplify the fraction: $\dfrac{m^{1/2}}{m^{2/5}}$

4. Simplify: $\sqrt[3]{16x^7y^{14}}$

5. Simplify: $9\sqrt[5]{x}+2\sqrt[5]{x}$

6. Write as a base with a single exponent: $\left(x^{10}\right)^{-1/2}$

7. Solve for X: $2(x-5)^3-1=15$

8. Simplify: $\dfrac{12^{4/5}}{3^{4/5}}$

9. Write as a base with a single exponent: $5^{1/2}\cdot 6^{1/2}$

STATION #2

1. Simplify: $2\sqrt[9]{4} + \sqrt[9]{4}$

2. Simplify the fraction: $\dfrac{c^{1/4}}{c^{1/3}}$

3. Solve for X: $3(x+2)^5 - 13 = -742$

4. Write as a base with a single exponent: $x^{3/4} \cdot x^{1/2}$

5. Evaluate (round to the *hundredth*) $34^{5/7}$

6. Write as a base with a single exponent: $\left(y^2\right)^{-1/4}$

7. Simplify: $\dfrac{2^{1/3}}{36^{1/3}}$

8. Write as a base with a single exponent: $\left(z^{4/5}\right)^{2/3}$

9. Simplify: $5^{1/3} \cdot 7^{1/3}$

STATION #3

1. Simplify the fraction: $\dfrac{x}{x^{1/5}}$

2. Simplify: $\sqrt[4]{A^{19}B^{3}C^{10}}$

3. Solve for X: $2x^{3/4} = 54$

4. Write as a base with a single exponent: $\left(a^{1/3}\right)^{-6}$

5. Simplify: $\left(y^{1/2} \cdot y^{2/3}\right)^{12}$

6. Evaluate (round to the *hundredth*) $17^{-5/3}$

7. Write as a base with a single exponent: $p^{3/7} \cdot p^{-1/5}$

8. Write as a base with a single exponent: $\left(y^{1/9}\right)^{-3}$

9. Simplify: $7\sqrt[x]{y} + 5\sqrt[x]{y}$

STATION #4

1. Write as a base with a single exponent: $\left(x^{1/6}\right)^{3/4}$

2. Simplify: $\sqrt[3]{x} \bullet \sqrt[4]{x}$

3. Simplify: $\sqrt[7]{A} + 2\sqrt[7]{A}$

4. Solve for X: $2(x+1)^3 - 2 = 430$

5. Write as an exponent $\left(\sqrt{x}\right)^7$

6. Simplify: $\sqrt[5]{2^{18}x^9}$

7. Solve: $2x^{3/2} + 1 = 129$

8. Simplify the fraction: $\dfrac{x^{2/5}}{x^{1/5}}$

9. $\dfrac{4^x 3^x}{2^x}$

STATION #5

Write each of the following in simplest form:

1. Simplify: $\frac{15^x}{3^x}$

2. Write as a base with a single exponent: $\left(a^2\right)^{-7/2}$

3. Simplify: $\sqrt[7]{g} \bullet \sqrt[3]{g}$

4. Write as a base with a single exponent: $y^{1/4} \bullet y^{4/5}$

5. Simplify: $\left(x^{3/5} \bullet x^{1/3}\right)^2$

6. Write as a base with a single exponent: $8^{1/x} \bullet 3^{1/x}$

7. Solve for X: $x^{5/2} = ~~3125~~ 243$

8. Simplify the fraction: $\frac{b}{b^{2/3}}$

r X: $(x+1)^{2/3} = 16$

Station 1

① $x^{8/5}$

② $k^{1/3 \cdot 1/2} = k^{1/6}$

③ $m^{1/2 - 2/5} = m^{1/10}$

④ $\sqrt[3]{2^4 x^7 y^{14}} = 2 \cdot x^2 y^4 \sqrt[3]{2xy^2}$

⑤ $7\sqrt[5]{x}$

⑥ $(x^{10})^{-1/2} = x^{-5} = \frac{1}{x^5}$

⑦ $(x-5)^3 = 8 \rightarrow \quad x-5 = 2 \quad \rightarrow x = 7$

⑧ $4^{4/5}$

⑨ $30^{1/2}$

Station 2

① $3\sqrt[9]{4}$

② $c^{-1/12} = \frac{1}{\sqrt[12]{c}} = \frac{1}{c^{1/2}} \cdot \frac{c^{11/12}}{c^{11/12}} = \frac{c^{11/12}}{c}$

③ $(x+2)^5 = -243 \qquad x+2 = -3 \qquad x = -5$

④ $x^{3/4 + 1/2} = x^{5/4}$

⑤ 12.41

⑥ $y^{2 \cdot -1/4} = y^{-1/2} = \frac{1}{y^{1/2}} \cdot \frac{y^{1/2}}{y^{1/2}} = \frac{y^{1/2}}{y}$

⑦ $\left(\frac{1}{18}\right)^{1/3} = \frac{1}{18^{1/3}} \cdot \frac{18^{2/3}}{18^{2/3}} = \frac{18^{2/3}}{18}$

⑧ $z^{8/15}$

⑨ $35^{1/3}$

Station 3

① $x^{4/5}$

② $A^4C^2\sqrt[4]{A^3B^3C^2}$

③ $x^{3/4} = 27 \longrightarrow 81$

④ a^{-2} $\frac{1}{a^2}$

⑤ y^{14}

⑥ 0.01

⑦ $P^{8/35}$

⑧ $y^{-1/3} = \frac{1}{y^{1/3}} \cdot \frac{y^{2/3}}{y^{2/3}} = \frac{y^{2/3}}{y}$

⑨ $12\sqrt[x]{y}$

Station 4

(1) $x^{1/8}$

(2) $x^{1/3} \cdot x^{1/4} = x^{7/12}$

(3) [illegible] $3\sqrt[3]{A}$

(4) $(x+1)^3 = 216 \quad x+1 = 6 \quad x = 5$

(5) $x^{7/2}$

(6) $2^3 x \sqrt[5]{2^3 x^4}$ or $8x \sqrt[5]{8x^4}$

(7) $x^{3/2} = 64 \quad x = 16$

(8) $x^{1/5}$

(9) 6^x

Station 5

① 5^x

② $a^{-7} = \frac{1}{a^7}$

③ $g^{1/7} \cdot g^{1/3} = g^{10/21}$

④ $y^{20/21}$

⑤ $x^{28/15}$

⑥ $24^{1/x}$

⑦ $\left(x^{5/2} = \frac{243}{[illegible]}\right)^{2/5} = 9$

⑧ [illegible] $b^{1-2/3} = b^{1/3}$

⑨ $\left((x+1)^{2/3} = 16\right)^{3/2}$

$x+1 = 64$

$x = 63$