

Name:

### Unit 9 – Pre-Assessment Radicals

Simplify:

①  $\sqrt{50}$   $\boxed{5\sqrt{2}}$

$\sqrt{50}$  is broken down into  $5 \cdot 2$ . The 5 is circled and the 2 is circled. An arrow points from the circled 5 to the circled 2, and another arrow points from the circled 2 to the circled 5, indicating the rearrangement of factors.

②  $3\sqrt{40}$   $\boxed{6\sqrt{10}}$

$3\sqrt{40}$  is broken down into  $3 \cdot 4 \cdot 10$ . The 4 is circled and the 10 is circled. The 3 is circled. An arrow points from the circled 4 to the circled 10, and another arrow points from the circled 10 to the circled 4, indicating the rearrangement of factors.

③  $2\sqrt{10} \cdot 3\sqrt{12}$   $\boxed{12\sqrt{30}}$

$2\sqrt{10} \cdot 3\sqrt{12}$  is broken down into  $2 \cdot 3 \cdot 10 \cdot 12$ . The 2 and 3 are circled. The 10 and 12 are circled. The 10 is broken down into  $2 \cdot 5$  and the 12 is broken down into  $2 \cdot 6$ . The 6 is broken down into  $2 \cdot 3$ . The final result is  $12\sqrt{30}$ .

④  $\sqrt{\frac{9}{16}}$   $\boxed{\frac{3}{4}}$

⑤  $\sqrt{\frac{2}{5}} \cdot \frac{\sqrt{2} \cdot \sqrt{5}}{\sqrt{10} \sqrt{5}}$   $\boxed{\frac{\sqrt{10}}{5}}$

⑥  $\frac{3}{\sqrt{11}} \cdot \frac{\sqrt{11}}{\sqrt{11}}$   $\boxed{\frac{3\sqrt{11}}{11}}$

Add or Subtract:

⑦  $3\sqrt{6} + 4\sqrt{24}$

$4\sqrt{24}$  is broken down into  $4 \cdot 6$ . The 6 is circled and the 4 is circled. The 6 is broken down into  $2 \cdot 3$  and the 4 is broken down into  $2 \cdot 2$ . The final result is  $3\sqrt{6} + 8\sqrt{6}$ .

$3\sqrt{6} + 8\sqrt{6}$   $\boxed{11\sqrt{6}}$

⑧  $3\sqrt{2} - 3\sqrt{3} + 6\sqrt{2} + 8\sqrt{3}$   $\boxed{9\sqrt{2} + 5\sqrt{3}}$

Solve for x:

⑨  $\sqrt{x} - 16 = 0$

$(\sqrt{x})^2 = (16)^2$

$\boxed{x = 256}$

⑩  $\sqrt{x+1} = 3$

$x+1 = 9$

$\boxed{x = 8}$