

Multiple Choice:

1. C 2. C 3. C 4. D 5. C 6. B 7. D 8. A 9. B 10. D

Constructed Response:

1. $33\sqrt{3} + 18$

2. Restrictions; $x \geq 0, y \in \mathbb{R}$ Simplified: $18x^4y^4\sqrt{10x}$

3a) $2x\sqrt{3x} + 2x\sqrt{3}$ 3b) $20\sqrt{3} + 30 - 8\sqrt{6} - 12\sqrt{3}$

4. $\frac{3\sqrt{14} + 21}{14}$

5. Restrictions: $y \geq 1$ Solve: $y = 37$ Verify: $\sqrt{y} - 1 + 7 = 13$

$$\sqrt{37} - 1 + 7 = 13$$

$$\sqrt{36} + 7 = 13$$

$$6 + 7 = 13 \quad \checkmark$$

$$13 = 13$$

6. The error made was the student didn't get the square roots of $2^2 \cdot 3^4$.

In front of the radical should be $2^1 \cdot 3^2 \sqrt{2 \cdot 3 \cdot 5} = 18\sqrt{30}$