

Page 837-838 #2-20 (skip #14), 31-33

**Add or subtract.**

2.  $14\sqrt{3} - 6\sqrt{3}$

3.  $9\sqrt{5} + \sqrt{5}$

4.  $6\sqrt{2} + 5\sqrt{2} - 15\sqrt{2}$

5.  $3\sqrt{7} + 5\sqrt{2}$

6.  $5\sqrt{a} - 9\sqrt{a}$

7.  $9\sqrt{6a} + 6\sqrt{5a} - 4\sqrt{6a}$

**Simplify each expression.**

8.  $\sqrt{32} - \sqrt{8}$

9.  $4\sqrt{12} + \sqrt{75}$

10.  $2\sqrt{3} + 5\sqrt{12} - \sqrt{27}$

11.  $\sqrt{20x} - \sqrt{45x}$

12.  $\sqrt{28c} + 9\sqrt{24c}$

13.  $\sqrt{50t} - 2\sqrt{12t} + 3\sqrt{2t}$

**Add or subtract.**

15.  $4\sqrt{3} + 2\sqrt{3}$

16.  $\frac{1}{2}\sqrt{72} - 12$

17.  $2\sqrt{11} + \sqrt{11} - 6\sqrt{11}$

18.  $6\sqrt{7} + 7\sqrt{6}$

19.  $-3\sqrt{n} - \sqrt{n}$

20.  $2\sqrt{2y} + 3\sqrt{2y} - 2\sqrt{3y}$

**Simplify each expression.**

31.  $5\sqrt{7} + 7\sqrt{7}$

32.  $18\sqrt{ab} - 10\sqrt{ab}$

33.  $-3\sqrt{3} + 3\sqrt{3}$

Simplify each expression.

21.  $\sqrt{175} + \sqrt{28}$

22.  $2\sqrt{80} - \sqrt{20}$

23.  $5\sqrt{8} - \sqrt{32} + 2\sqrt{18}$

24.  $\sqrt{150r} + \sqrt{54r}$

25.  $\sqrt{63x} - 4\sqrt{27x}$

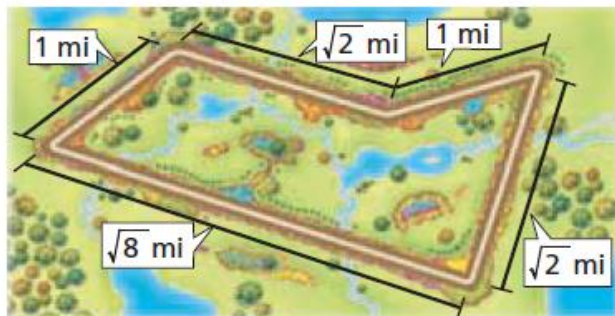
26.  $\sqrt{48p} + 3\sqrt{18p} - 2\sqrt{27p}$

27.  $\sqrt{180j} - \sqrt{45j}$

28.  $3\sqrt{90c} - \sqrt{40c}$

29.  $2\sqrt{75m} - \sqrt{12m} - \sqrt{108m}$

30. **Fitness** What is the total length of the jogging path? Give your answer as a radical expression in simplest form.



Simplify each expression.

40.  $\sqrt{450ab} - \sqrt{50ab}$

41.  $\sqrt{12} + \sqrt{125} + \sqrt{25}$

42.  $\sqrt{338} - \sqrt{18}$

43.  $\sqrt{700x} - \sqrt{28x} - \sqrt{70x}$

44.  $-3\sqrt{90} - 3\sqrt{160}$

45.  $7\sqrt{80k} + 2\sqrt{20k} + \sqrt{45k}$

48. **/// ERROR ANALYSIS ///** Which expressions are simplified incorrectly? Explain the error in each incorrect simplification.

**A**

$4\sqrt{5} + 5\sqrt{5}$
$9\sqrt{10}$

**B**

$8\sqrt{3} - 7\sqrt{3}$
$\sqrt{3}$

**C**

$7\sqrt{11} - 3\sqrt{6}$
$4\sqrt{5}$