

Name _____

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Additional Exercises 8.4
Form I
Rationalizing the Denominator

Rationalize each denominator. Then simplify the rationalized expression if possible.

1. $\frac{1}{\sqrt{5}}$

1. _____

2. $\frac{2}{\sqrt{3}}$

2. _____

3. $\frac{3}{\sqrt{6}}$

3. _____

4. $\frac{5}{\sqrt{10}}$

4. _____

5. $\sqrt{\frac{3}{5}}$

5. _____

6. $\sqrt{\frac{1}{7}}$

6. _____

7. $\sqrt{\frac{3}{10}}$

7. _____

Simplify each expression. Then rationalize the denominator.

8. $\frac{1}{\sqrt{8}}$

8. _____

9. $\frac{1}{\sqrt{12}}$

9. _____

10. $\sqrt{\frac{1}{24}}$

10. _____

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11. $\sqrt{\frac{5}{12}}$

11. _____

12. $\sqrt{\frac{7}{18}}$

12. _____

13. $\frac{10}{\sqrt{20}}$

13. _____

14. $\frac{15}{\sqrt{40}}$

14. _____

15. $\sqrt{\frac{3}{50}}$

15. _____

Rationalize each denominator. Then simplify if possible.

16. $\frac{1}{5-\sqrt{3}}$

16. _____

17. $\frac{6}{3+\sqrt{2}}$

17. _____

18. $\frac{10}{10-\sqrt{6}}$

18. _____

19. $\frac{5}{\sqrt{5}+\sqrt{3}}$

19. _____

20. $\frac{4}{\sqrt{6}-\sqrt{5}}$

20. _____

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Additional Exercises 8.4
Form II
Rationalizing the Denominator

Rationalize each denominator. Then simplify the rationalized expression if possible.

1. $\sqrt{\frac{2}{3}}$ 1. _____

2. $\sqrt{\frac{1}{6}}$ 2. _____

3. $\frac{\sqrt{3}}{\sqrt{5}}$ 3. _____

4. $\frac{8}{\sqrt{10}}$ 4. _____

5. $\frac{3}{\sqrt{15}}$ 5. _____

6. $\frac{\sqrt{6}}{\sqrt{11}}$ 6. _____

7. $\sqrt{\frac{4}{7}}$ 7. _____

Simplify each expression. Then rationalize the denominator.

8. $\frac{3}{\sqrt{8}}$ 8. _____

9. $\frac{5}{\sqrt{20}}$ 9. _____

10. $\sqrt{\frac{1}{32}}$ 10. _____

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11. $\sqrt{\frac{7}{24}}$

11. _____

12. $\frac{5}{\sqrt{32}}$

12. _____

13. $\sqrt{\frac{8}{30}}$

13. _____

14. $\frac{\sqrt{3}}{\sqrt{22}}$

14. _____

Rationalize each denominator. Then simplify if possible.

15. $\frac{2}{2+\sqrt{5}}$

15. _____

16. $\frac{3}{8-\sqrt{6}}$

16. _____

17. $\frac{4}{\sqrt{6}-\sqrt{2}}$

17. _____

18. $\frac{6}{\sqrt{5}+\sqrt{3}}$

18. _____

19. $\frac{3+\sqrt{2}}{2+\sqrt{3}}$

19. _____

20. $\frac{5+\sqrt{3}}{\sqrt{6}-\sqrt{3}}$

20. _____

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Additional Exercises 8.4**Form III****Rationalizing the Denominator**

Rationalize each denominator. Then simplify the rationalized expression if possible.

1. $\frac{6}{\sqrt{10}}$

1. _____

2. $\frac{5}{\sqrt{5}}$

2. _____

3. $\frac{6}{\sqrt{3}}$

3. _____

4. $\sqrt{\frac{3}{7}}$

4. _____

5. $\frac{6x}{\sqrt{6x}}$

5. _____

6. $\sqrt{\frac{2}{5xy}}$

6. _____

Simplify each expression. Then rationalize the denominator.

7. $\frac{3}{\sqrt{20}}$

7. _____

8. $\frac{2}{\sqrt{48}}$

8. _____

9. $\sqrt{\frac{3}{8}}$

9. _____

10. $\sqrt{\frac{4y}{28y}}$

10. _____

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11. $\frac{\sqrt{10}}{\sqrt{32}}$

11. _____

12. $\sqrt{\frac{5}{72x^3}}$

12. _____

13. $\frac{\sqrt{12x}}{\sqrt{27xy^3}}$

13. _____

14. $\sqrt{\frac{6}{40ab^5}}$

14. _____

Rationalize each denominator. Then simplify if possible.

15. $\frac{8}{6-\sqrt{5}}$

15. _____

16. $\frac{14}{7+\sqrt{5}}$

16. _____

17. $\frac{\sqrt{6}}{\sqrt{5}-\sqrt{3}}$

17. _____

18. $\frac{\sqrt{5}}{\sqrt{10}+\sqrt{3}}$

18. _____

19. $\frac{3\sqrt{2}}{\sqrt{6}-\sqrt{3}}$

19. _____

20. $\frac{2\sqrt{6}+\sqrt{10}}{\sqrt{10}-\sqrt{6}}$

20. _____