

Assignment

Date _____ Period _____

Simplify.

1) $\frac{5}{-1 + \sqrt{3}}$

2) $\frac{3}{4 + \sqrt{5}}$

3) $\frac{\sqrt{2}}{2 - \sqrt{2}}$

4) $\frac{\sqrt{2}}{-5 + \sqrt{2}}$

5) $\frac{5}{2\sqrt{2} - 3\sqrt{3}}$

6) $\frac{3}{\sqrt{2} - 3\sqrt{5}}$

7) $\frac{4}{\sqrt{2} - 3\sqrt{5}}$

8) $\frac{2}{3\sqrt{2} + 2\sqrt{5}}$

9) $\frac{3}{5 + 2\sqrt{3}}$

10) $\frac{\sqrt{3}}{2 - 5\sqrt{2}}$

11) $\frac{4\sqrt{3}}{3 + 5\sqrt{3}}$

12) $\frac{4}{4 + \sqrt{3}}$

13) $\frac{5\sqrt{2}}{5 + 5\sqrt{3}}$

14) $\frac{4}{2 - 5\sqrt{5}}$

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

16) $\frac{2}{4 + \sqrt{3}}$

17) $-\frac{2\sqrt{3}}{\sqrt{5} + \sqrt{3}}$

18) $\frac{3\sqrt{3}}{3 + \sqrt{2}}$

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

20) $\frac{3}{-5 + 2\sqrt{2}}$

21) $\frac{5}{2 + \sqrt{2}}$

22) $\frac{4}{4 + 2\sqrt{5}}$

Assignment

Date _____ Period _____

Simplify.

1) $\frac{5}{-1 + \sqrt{3}} \cdot \frac{5 + 5\sqrt{3}}{2}$

2) $\frac{3}{4 + \sqrt{5}} \cdot \frac{12 - 3\sqrt{5}}{11}$

3) $\frac{\sqrt{2}}{2 - \sqrt{2}} \cdot \frac{\sqrt{2} + 1}{\sqrt{2} + 1}$

4) $\frac{\sqrt{2}}{-5 + \sqrt{2}} \cdot \frac{-5\sqrt{2} - 2}{23}$

5) $\frac{5}{2\sqrt{2} - 3\sqrt{3}} \cdot \frac{-10\sqrt{2} - 15\sqrt{3}}{19}$

6) $\frac{3}{\sqrt{2} - 3\sqrt{5}} \cdot \frac{-3\sqrt{2} - 9\sqrt{5}}{43}$

7) $\frac{4}{\sqrt{2} - 3\sqrt{5}} \cdot \frac{-4\sqrt{2} - 12\sqrt{5}}{43}$

8) $\frac{2}{3\sqrt{2} + 2\sqrt{5}} \cdot \frac{-3\sqrt{2} + 2\sqrt{5}}{-3\sqrt{2} + 2\sqrt{5}}$

9) $\frac{3}{5 + 2\sqrt{3}} \cdot \frac{15 - 6\sqrt{3}}{13}$

10) $\frac{\sqrt{3}}{2 - 5\sqrt{2}} \cdot \frac{-2\sqrt{3} - 5\sqrt{6}}{46}$

11) $\frac{4\sqrt{3}}{3 + 5\sqrt{3}} \cdot \frac{-2\sqrt{3} + 10}{11}$

12) $\frac{4}{4 + \sqrt{3}} \cdot \frac{16 - 4\sqrt{3}}{13}$

13) $\frac{5\sqrt{2}}{5 + 5\sqrt{3}} \cdot \frac{-\sqrt{2} + \sqrt{6}}{2}$

14) $\frac{4}{2 - 5\sqrt{5}} \cdot \frac{-8 - 20\sqrt{5}}{121}$

15) $\frac{5}{5 + 2\sqrt{2}} \cdot \frac{25 - 10\sqrt{2}}{17}$

16) $\frac{2}{4 + \sqrt{3}} \cdot \frac{8 - 2\sqrt{3}}{13}$

17) $-\frac{2\sqrt{3}}{\sqrt{5} + \sqrt{3}} \cdot \frac{-\sqrt{15} + 3}{-\sqrt{15} + 3}$

18) $\frac{3\sqrt{3}}{3 + \sqrt{2}} \cdot \frac{9\sqrt{3} - 3\sqrt{6}}{7}$

19) $\frac{3\sqrt{5}}{3 + 5\sqrt{3}} \cdot \frac{-3\sqrt{5} + 5\sqrt{15}}{22}$

20) $\frac{3}{-5 + 2\sqrt{2}} \cdot \frac{-15 - 6\sqrt{2}}{17}$

21) $\frac{5}{2 + \sqrt{2}} \cdot \frac{10 - 5\sqrt{2}}{2}$

22) $\frac{4}{4 + 2\sqrt{5}} \cdot \frac{-4 + 2\sqrt{5}}{-4 + 2\sqrt{5}}$

Assignment

Date _____ Period _____

Simplify.

1) $\frac{2}{5 - 5\sqrt{5}}$

2) $\frac{5}{4 - \sqrt{5}}$

3) $\frac{3}{3 + \sqrt{2}}$

4) $\frac{5}{5 + \sqrt{5}}$

5) $-\frac{2}{2 - 4\sqrt{2}}$

6) $\frac{2\sqrt{3}}{4 + \sqrt{5}}$

7) $\frac{4}{\sqrt{5} - 4}$

8) $\frac{\sqrt{2}}{2\sqrt{5} + \sqrt{3}}$

9) $\frac{3}{\sqrt{5} - \sqrt{3}}$

10) $\frac{5}{5 + \sqrt{2}}$

11) $\frac{5\sqrt{5}}{5 - 2\sqrt{3}}$

12) $\frac{5}{-5 - \sqrt{5}}$

13) $\frac{3}{5\sqrt{3} + 3\sqrt{2}}$

14) $-\frac{2}{-5 + 4\sqrt{5}}$

15) $\frac{2}{3 - \sqrt{3}}$

16) $-\frac{4}{4 + 3\sqrt{3}}$

17) $\frac{2}{-3 - \sqrt{3}}$

18) $\frac{2}{5 + 3\sqrt{5}}$

19) $-\frac{2\sqrt{2}}{4 + \sqrt{3}}$

20) $\frac{\sqrt{3}}{5\sqrt{5} - \sqrt{3}}$

21) $\frac{2}{3 + 2\sqrt{2}}$

22) $\frac{5\sqrt{2}}{5\sqrt{2} + 3\sqrt{3}}$

Assignment

Simplify.

1) $\frac{2}{5-5\sqrt{5}} \frac{-1-\sqrt{5}}{10}$

2) $\frac{5}{4-\sqrt{5}} \frac{20+5\sqrt{5}}{11}$

3) $\frac{3}{3+\sqrt{2}} \frac{9-3\sqrt{2}}{7}$

4) $\frac{5}{5+\sqrt{5}} \frac{5-\sqrt{5}}{4}$

5) $-\frac{2}{2-4\sqrt{2}} \frac{1+2\sqrt{2}}{7}$

6) $\frac{2\sqrt{3}}{4+\sqrt{5}} \frac{8\sqrt{3}-2\sqrt{15}}{11}$

7) $\frac{4}{\sqrt{5}-4} \frac{-4\sqrt{5}-16}{11}$

8) $\frac{\sqrt{2}}{2\sqrt{5}+\sqrt{3}} \frac{2\sqrt{10}-\sqrt{6}}{17}$

9) $\frac{3}{\sqrt{5}-\sqrt{3}} \frac{3\sqrt{5}+3\sqrt{3}}{2}$

10) $\frac{5}{5+\sqrt{2}} \frac{25-5\sqrt{2}}{23}$

11) $\frac{5\sqrt{5}}{5-2\sqrt{3}} \frac{25\sqrt{5}+10\sqrt{15}}{13}$

12) $\frac{5}{-5-\sqrt{5}} \frac{-5+\sqrt{5}}{4}$

13) $\frac{3}{5\sqrt{3}+3\sqrt{2}} \frac{5\sqrt{3}-3\sqrt{2}}{19}$

14) $-\frac{2}{-5+4\sqrt{5}} \frac{-10-8\sqrt{5}}{55}$

15) $\frac{2}{3-\sqrt{3}} \frac{3+\sqrt{3}}{3}$

16) $-\frac{4}{4+3\sqrt{3}} \frac{16-12\sqrt{3}}{11}$

17) $\frac{2}{-3-\sqrt{3}} \frac{-3+\sqrt{3}}{3}$

18) $\frac{2}{5+3\sqrt{5}} \frac{-5+3\sqrt{5}}{10}$

19) $-\frac{2\sqrt{2}}{4+\sqrt{3}} \frac{-8\sqrt{2}+2\sqrt{6}}{13}$

20) $\frac{\sqrt{3}}{5\sqrt{5}-\sqrt{3}} \frac{5\sqrt{15}+3}{122}$

21) $\frac{2}{3+2\sqrt{2}} \frac{6-4\sqrt{2}}{6-4\sqrt{2}}$

22) $\frac{5\sqrt{2}}{5\sqrt{2}+3\sqrt{3}} \frac{50-15\sqrt{6}}{23}$

Assignment

Date _____ Period _____

Simplify.

1) $\frac{4}{2\sqrt{2} + 3\sqrt{5}}$

2) $\frac{4}{4\sqrt{3} + \sqrt{5}}$

3) $\frac{2}{4 + \sqrt{3}}$

4) $-\frac{2}{3\sqrt{2} - 3\sqrt{5}}$

5) $-\frac{1}{4 + \sqrt{5}}$

6) $\frac{2}{5 + \sqrt{2}}$

7) $\frac{3}{3 + 2\sqrt{2}}$

8) $-\frac{3}{-3 + 3\sqrt{3}}$

9) $\frac{\sqrt{3}}{3\sqrt{3} - 5\sqrt{2}}$

10) $\frac{5}{\sqrt{3} + \sqrt{2}}$

11) $\frac{\sqrt{3}}{2 + 2\sqrt{2}}$

12) $\frac{4}{4 - \sqrt{5}}$

13) $\frac{\sqrt{3}}{-5 + \sqrt{3}}$

14) $\frac{3}{4\sqrt{5} + \sqrt{3}}$

15) $\frac{2}{2 - 5\sqrt{2}}$

16) $\frac{5}{2 + 5\sqrt{5}}$

17) $\frac{3}{\sqrt{5} + \sqrt{2}}$

18) $\frac{3}{2 - \sqrt{3}}$

19) $\frac{4\sqrt{3}}{3 - \sqrt{2}}$

20) $\frac{5}{4 - 5\sqrt{5}}$

21) $\frac{3}{2\sqrt{3} - 3}$

22) $\frac{\sqrt{3}}{4\sqrt{5} + 2\sqrt{3}}$

Assignment

Name _____

Date _____ Period _____

Simplify.

1) $\frac{4}{2\sqrt{2} + 3\sqrt{5}} \frac{-8\sqrt{2} + 12\sqrt{5}}{37}$

2) $\frac{4}{4\sqrt{3} + \sqrt{5}} \frac{16\sqrt{3} - 4\sqrt{5}}{43}$

3) $\frac{2}{4 + \sqrt{3}} \frac{8 - 2\sqrt{3}}{13}$

4) $-\frac{2}{3\sqrt{2} - 3\sqrt{5}} \frac{2\sqrt{2} + 2\sqrt{5}}{9}$

5) $-\frac{1}{4 + \sqrt{5}} \frac{-4 + \sqrt{5}}{11}$

6) $\frac{2}{5 + \sqrt{2}} \frac{10 - 2\sqrt{2}}{23}$

7) $\frac{3}{3 + 2\sqrt{2}}$
 $9 - 6\sqrt{2}$

8) $-\frac{3}{-3 + 3\sqrt{3}} \frac{-1 - \sqrt{3}}{2}$

9) $\frac{\sqrt{3}}{3\sqrt{3} - 5\sqrt{2}} \frac{-9 - 5\sqrt{6}}{23}$

10) $\frac{5}{\sqrt{3} + \sqrt{2}}$
 $5\sqrt{3} - 5\sqrt{2}$

11) $\frac{\sqrt{3}}{2 + 2\sqrt{2}} \frac{-\sqrt{3} + \sqrt{6}}{2}$

12) $\frac{4}{4 - \sqrt{5}} \frac{16 + 4\sqrt{5}}{11}$

13) $\frac{\sqrt{3}}{-5 + \sqrt{3}} \frac{-5\sqrt{3} - 3}{22}$

14) $\frac{3}{4\sqrt{5} + \sqrt{3}} \frac{12\sqrt{5} - 3\sqrt{3}}{77}$

15) $\frac{2}{2 - 5\sqrt{2}} \frac{-2 - 5\sqrt{2}}{23}$

16) $\frac{5}{2 + 5\sqrt{5}} \frac{-10 + 25\sqrt{5}}{121}$

17) $\frac{3}{\sqrt{5} + \sqrt{2}}$
 $\sqrt{5} - \sqrt{2}$

18) $\frac{3}{2 - \sqrt{3}}$
 $6 + 3\sqrt{3}$

19) $\frac{4\sqrt{3}}{3 - \sqrt{2}} \frac{12\sqrt{3} + 4\sqrt{6}}{7}$

20) $\frac{5}{4 - 5\sqrt{5}} \frac{-20 - 25\sqrt{5}}{109}$

21) $\frac{3}{2\sqrt{3} - 3}$
 $2\sqrt{3} + 3$

22) $\frac{\sqrt{3}}{4\sqrt{5} + 2\sqrt{3}} \frac{2\sqrt{15} - 3}{34}$

Assignment

Date _____ Period _____

Simplify.

1) $\frac{4}{-5 - \sqrt{5}}$

2) $\frac{5}{5 + \sqrt{3}}$

3) $-\frac{2}{3 - 4\sqrt{2}}$

4) $-\frac{3\sqrt{2}}{\sqrt{2} - 4\sqrt{5}}$

5) $\frac{2}{4 + 2\sqrt{5}}$

6) $\frac{3}{3 - 3\sqrt{3}}$

7) $\frac{4}{2\sqrt{5} + \sqrt{3}}$

8) $\frac{2}{4\sqrt{2} - 2}$

9) $\frac{4}{2 - 5\sqrt{3}}$

10) $\frac{4}{-3 + \sqrt{5}}$

11) $\frac{2}{2 + \sqrt{5}}$

12) $\frac{\sqrt{3}}{3 - 2\sqrt{2}}$

13) $\frac{2\sqrt{2}}{5 - 3\sqrt{3}}$

14) $\frac{2}{5\sqrt{2} - 4\sqrt{5}}$

15) $\frac{4\sqrt{5}}{4 + 2\sqrt{2}}$

16) $\frac{3}{\sqrt{3} + 3}$

17) $\frac{5}{2 + \sqrt{3}}$

18) $\frac{\sqrt{2}}{3 + 4\sqrt{5}}$

19) $\frac{\sqrt{3}}{-5 - 5\sqrt{2}}$

20) $\frac{3}{-2 - 3\sqrt{3}}$

21) $\frac{3}{\sqrt{3} + 2}$

22) $\frac{\sqrt{5}}{\sqrt{5} + 3\sqrt{3}}$

Assignment

Date _____ Period _____

Simplify.

1) $\frac{4}{-5 - \sqrt{5}} \frac{-5 + \sqrt{5}}{5}$

2) $\frac{5}{5 + \sqrt{3}} \frac{25 - 5\sqrt{3}}{22}$

3) $-\frac{2}{3 - 4\sqrt{2}} \frac{6 + 8\sqrt{2}}{23}$

4) $-\frac{3\sqrt{2}}{\sqrt{2} - 4\sqrt{5}} \frac{1 + 2\sqrt{10}}{13}$

5) $\frac{2}{4 + 2\sqrt{5}}$
 $-2 + \sqrt{5}$

6) $\frac{3}{3 - 3\sqrt{3}} \frac{-1 - \sqrt{3}}{2}$

7) $\frac{4}{2\sqrt{5} + \sqrt{3}} \frac{8\sqrt{5} - 4\sqrt{3}}{17}$

8) $\frac{2}{4\sqrt{2} - 2} \frac{2\sqrt{2} + 1}{7}$

9) $\frac{4}{2 - 5\sqrt{3}} \frac{-8 - 20\sqrt{3}}{71}$

10) $\frac{4}{-3 + \sqrt{5}}$
 $-3 - \sqrt{5}$

11) $\frac{2}{2 + \sqrt{5}}$
 $-4 + 2\sqrt{5}$

12) $\frac{\sqrt{3}}{3 - 2\sqrt{2}}$
 $3\sqrt{3} + 2\sqrt{6}$

13) $\frac{2\sqrt{2}}{5 - 3\sqrt{3}}$
 $-5\sqrt{2} - 3\sqrt{6}$

14) $\frac{2}{5\sqrt{2} - 4\sqrt{5}} \frac{-5\sqrt{2} - 4\sqrt{5}}{15}$

15) $\frac{4\sqrt{5}}{4 + 2\sqrt{2}}$
 $2\sqrt{5} - \sqrt{10}$

16) $\frac{3}{\sqrt{3} + 3} \frac{-\sqrt{3} + 3}{2}$

17) $\frac{5}{2 + \sqrt{3}}$
 $10 - 5\sqrt{3}$

18) $\frac{\sqrt{2}}{3 + 4\sqrt{5}} \frac{-3\sqrt{2} + 4\sqrt{10}}{71}$

19) $\frac{\sqrt{3}}{-5 - 5\sqrt{2}} \frac{\sqrt{3} - \sqrt{6}}{5}$

20) $\frac{3}{-2 - 3\sqrt{3}} \frac{6 - 9\sqrt{3}}{23}$

21) $\frac{3}{\sqrt{3} + 2}$
 $-3\sqrt{3} + 6$

22) $\frac{\sqrt{5}}{\sqrt{5} + 3\sqrt{3}} \frac{-5 + 3\sqrt{15}}{22}$

Assignment

Date _____ Period _____

Simplify.

1) $-\frac{3\sqrt{3}}{2-2\sqrt{5}}$

2) $\frac{2}{\sqrt{3}+\sqrt{5}}$

3) $\frac{\sqrt{5}}{5+\sqrt{2}}$

4) $\frac{4}{3\sqrt{2}+\sqrt{5}}$

5) $\frac{5}{2+\sqrt{2}}$

6) $\frac{2}{-1-3\sqrt{5}}$

7) $\frac{3\sqrt{5}}{-2+5\sqrt{5}}$

8) $-\frac{1}{2+\sqrt{2}}$

9) $-\frac{5\sqrt{3}}{5+\sqrt{2}}$

10) $\frac{5}{4-4\sqrt{3}}$

11) $\frac{3}{\sqrt{5}+4\sqrt{2}}$

12) $\frac{3}{4-\sqrt{5}}$

13) $\frac{4}{5-\sqrt{3}}$

14) $\frac{2}{5+2\sqrt{5}}$

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

16) $\frac{\sqrt{5}}{4\sqrt{2}+2\sqrt{5}}$

17) $-\frac{2\sqrt{5}}{-4-2\sqrt{3}}$

18) $\frac{3}{3+\sqrt{3}}$

19) $\frac{4}{5+\sqrt{5}}$

20) $\frac{3}{5-\sqrt{2}}$

21) $\frac{3}{2-3\sqrt{5}}$

22) $\frac{4}{3\sqrt{5}-\sqrt{3}}$

Assignment

Date _____ Period _____

Simplify.

1) $-\frac{3\sqrt{3}}{2-2\sqrt{5}} \frac{3\sqrt{3}+3\sqrt{15}}{8}$

2) $\frac{2}{\sqrt{3}+\sqrt{5}} \frac{-\sqrt{3}+\sqrt{5}}{2}$

3) $\frac{\sqrt{5}}{5+\sqrt{2}} \frac{5\sqrt{5}-\sqrt{10}}{23}$

4) $\frac{4}{3\sqrt{2}+\sqrt{5}} \frac{12\sqrt{2}-4\sqrt{5}}{13}$

5) $\frac{5}{2+\sqrt{2}} \frac{10-5\sqrt{2}}{2}$

6) $\frac{2}{-1-3\sqrt{5}} \frac{1-3\sqrt{5}}{22}$

7) $\frac{3\sqrt{5}}{-2+5\sqrt{5}} \frac{6\sqrt{5}+75}{121}$

8) $-\frac{1}{2+\sqrt{2}} \frac{-2+\sqrt{2}}{2}$

9) $-\frac{5\sqrt{3}}{5+\sqrt{2}} \frac{-25\sqrt{3}+5\sqrt{6}}{23}$

10) $\frac{5}{4-4\sqrt{3}} \frac{-5-5\sqrt{3}}{8}$

11) $\frac{3}{\sqrt{5}+4\sqrt{2}} \frac{-\sqrt{5}+4\sqrt{2}}{9}$

12) $\frac{3}{4-\sqrt{5}} \frac{12+3\sqrt{5}}{11}$

13) $\frac{4}{5-\sqrt{3}} \frac{10+2\sqrt{3}}{11}$

14) $\frac{2}{5+2\sqrt{5}} \frac{10-4\sqrt{5}}{5}$

15) $\frac{\sqrt{2}}{5+\sqrt{2}} \frac{5\sqrt{2}-2}{23}$

16) $\frac{\sqrt{5}}{4\sqrt{2}+2\sqrt{5}} \frac{2\sqrt{10}-5}{6}$

17) $-\frac{2\sqrt{5}}{-4-2\sqrt{3}} \frac{2\sqrt{5}-\sqrt{15}}{2}$

18) $\frac{3}{3+\sqrt{3}} \frac{3-\sqrt{3}}{2}$

19) $\frac{4}{5+\sqrt{5}} \frac{5-\sqrt{5}}{5}$

20) $\frac{3}{5-\sqrt{2}} \frac{15+3\sqrt{2}}{23}$

21) $\frac{3}{2-3\sqrt{5}} \frac{-6-9\sqrt{5}}{41}$

22) $\frac{4}{3\sqrt{5}-\sqrt{3}} \frac{6\sqrt{5}+2\sqrt{3}}{21}$

Assignment

Date _____ Period _____

Simplify.

1) $\frac{\sqrt{3}}{-4 - \sqrt{2}}$

2) $\frac{4\sqrt{5}}{4 - \sqrt{2}}$

3) $\frac{4}{3 - \sqrt{3}}$

4) $-\frac{4}{3 + \sqrt{3}}$

5) $-\frac{3\sqrt{3}}{2 - 3\sqrt{5}}$

6) $-\frac{1}{4 - 2\sqrt{2}}$

7) $\frac{5}{\sqrt{5} + 4}$

8) $\frac{\sqrt{5}}{3 + 5\sqrt{2}}$

9) $\frac{5}{-3 - \sqrt{3}}$

10) $\frac{4}{5 - \sqrt{5}}$

11) $\frac{5}{2 + \sqrt{5}}$

12) $\frac{4}{3 - \sqrt{2}}$

13) $\frac{3}{2 - \sqrt{2}}$

14) $\frac{3}{\sqrt{3} + 2}$

15) $\frac{3\sqrt{2}}{3 + \sqrt{3}}$

16) $\frac{2}{5\sqrt{5} + 3\sqrt{3}}$

17) $\frac{5}{4 + \sqrt{2}}$

18) $\frac{3}{3\sqrt{3} + 5\sqrt{2}}$

19) $\frac{3}{5 - \sqrt{2}}$

20) $\frac{4\sqrt{5}}{4\sqrt{5} - 5}$

21) $\frac{\sqrt{3}}{-2 - 5\sqrt{3}}$

22) $\frac{4}{2 + 4\sqrt{3}}$

Assignment

Simplify.

1) $\frac{\sqrt{3}}{-4 - \sqrt{2}} \frac{-4\sqrt{3} + \sqrt{6}}{14}$

2) $\frac{4\sqrt{5}}{4 - \sqrt{2}} \frac{8\sqrt{5} + 2\sqrt{10}}{7}$

3) $\frac{4}{3 - \sqrt{3}} \frac{6 + 2\sqrt{3}}{3}$

4) $-\frac{4}{3 + \sqrt{3}} \frac{-6 + 2\sqrt{3}}{3}$

5) $-\frac{3\sqrt{3}}{2 - 3\sqrt{5}} \frac{6\sqrt{3} + 9\sqrt{15}}{41}$

6) $-\frac{1}{4 - 2\sqrt{2}} \frac{-2 - \sqrt{2}}{4}$

7) $\frac{5}{\sqrt{5} + 4} \frac{-5\sqrt{5} + 20}{11}$

8) $\frac{\sqrt{5}}{3 + 5\sqrt{2}} \frac{-3\sqrt{5} + 5\sqrt{10}}{41}$

9) $\frac{5}{-3 - \sqrt{3}} \frac{-15 + 5\sqrt{3}}{6}$

10) $\frac{4}{5 - \sqrt{5}} \frac{5 + \sqrt{5}}{5}$

11) $\frac{5}{2 + \sqrt{5}}$

12) $\frac{4}{3 - \sqrt{2}} \frac{12 + 4\sqrt{2}}{7}$

$-10 + 5\sqrt{5}$

13) $\frac{3}{2 - \sqrt{2}} \frac{6 + 3\sqrt{2}}{2}$

14) $\frac{3}{\sqrt{3} + 2}$

$-3\sqrt{3} + 6$

15) $\frac{3\sqrt{2}}{3 + \sqrt{3}} \frac{3\sqrt{2} - \sqrt{6}}{2}$

16) $\frac{2}{5\sqrt{5} + 3\sqrt{3}} \frac{5\sqrt{5} - 3\sqrt{3}}{49}$

17) $\frac{5}{4 + \sqrt{2}} \frac{20 - 5\sqrt{2}}{14}$

18) $\frac{3}{3\sqrt{3} + 5\sqrt{2}} \frac{-9\sqrt{3} + 15\sqrt{2}}{23}$

19) $\frac{3}{5 - \sqrt{2}} \frac{15 + 3\sqrt{2}}{23}$

20) $\frac{4\sqrt{5}}{4\sqrt{5} - 5} \frac{16 + 4\sqrt{5}}{11}$

21) $\frac{\sqrt{3}}{-2 - 5\sqrt{3}} \frac{2\sqrt{3} - 15}{71}$

22) $\frac{4}{2 + 4\sqrt{3}} \frac{-2 + 4\sqrt{3}}{11}$

Assignment

Simplify.

1) $\frac{4}{3 - 2\sqrt{3}}$

2) $\frac{4}{3 + \sqrt{5}}$

3) $\frac{3}{-4 - \sqrt{2}}$

4) $-\frac{2}{5\sqrt{2} + 3\sqrt{5}}$

5) $\frac{5}{4\sqrt{5} - 4\sqrt{3}}$

6) $\frac{4}{4\sqrt{5} + 2\sqrt{2}}$

7) $\frac{3}{3 - \sqrt{3}}$

8) $\frac{4}{2 - \sqrt{5}}$

9) $\frac{2}{\sqrt{3} - 3\sqrt{2}}$

10) $\frac{3}{4 - \sqrt{3}}$

11) $\frac{5}{4 + \sqrt{3}}$

12) $\frac{3}{4 + 2\sqrt{5}}$

13) $\frac{3}{4 - \sqrt{5}}$

14) $\frac{2}{4 + 4\sqrt{5}}$

15) $\frac{\sqrt{3}}{2 - \sqrt{2}}$

16) $\frac{3}{3\sqrt{5} + 3\sqrt{3}}$

17) $\frac{2}{5 + 2\sqrt{3}}$

18) $\frac{5}{2 - \sqrt{3}}$

19) $\frac{2}{2\sqrt{2} + \sqrt{5}}$

20) $\frac{5}{3 + \sqrt{3}}$

21) $\frac{5}{4\sqrt{3} - \sqrt{2}}$

22) $\frac{5}{-2 - \sqrt{3}}$

Assignment

Name _____

Date _____ Period _____

Simplify.

1) $\frac{4}{3-2\sqrt{3}} \frac{-12-8\sqrt{3}}{3}$

2) $\frac{4}{3+\sqrt{5}}$
 $3-\sqrt{5}$

3) $\frac{3}{-4-\sqrt{2}} \frac{-12+3\sqrt{2}}{14}$

4) $-\frac{2}{5\sqrt{2}+3\sqrt{5}} \frac{-10\sqrt{2}+6\sqrt{5}}{5}$

5) $\frac{5}{4\sqrt{5}-4\sqrt{3}} \frac{5\sqrt{5}+5\sqrt{3}}{8}$

6) $\frac{4}{4\sqrt{5}+2\sqrt{2}} \frac{2\sqrt{5}-\sqrt{2}}{9}$

7) $\frac{3}{3-\sqrt{3}} \frac{3+\sqrt{3}}{2}$

8) $\frac{4}{2-\sqrt{5}}$
 $-8-4\sqrt{5}$

9) $\frac{2}{\sqrt{3}-3\sqrt{2}} \frac{-2\sqrt{3}-6\sqrt{2}}{15}$

10) $\frac{3}{4-\sqrt{3}} \frac{12+3\sqrt{3}}{13}$

11) $\frac{5}{4+\sqrt{3}} \frac{20-5\sqrt{3}}{13}$

12) $\frac{3}{4+2\sqrt{5}} \frac{-6+3\sqrt{5}}{2}$

13) $\frac{3}{4-\sqrt{5}} \frac{12+3\sqrt{5}}{11}$

14) $\frac{2}{4+4\sqrt{5}} \frac{-1+\sqrt{5}}{8}$

15) $\frac{\sqrt{3}}{2-\sqrt{2}} \frac{2\sqrt{3}+\sqrt{6}}{2}$

16) $\frac{3}{3\sqrt{5}+3\sqrt{3}} \frac{\sqrt{5}-\sqrt{3}}{2}$

17) $\frac{2}{5+2\sqrt{3}} \frac{10-4\sqrt{3}}{13}$

18) $\frac{5}{2-\sqrt{3}}$
 $10+5\sqrt{3}$

19) $\frac{2}{2\sqrt{2}+\sqrt{5}} \frac{4\sqrt{2}-2\sqrt{5}}{3}$

20) $\frac{5}{3+\sqrt{3}} \frac{15-5\sqrt{3}}{6}$

21) $\frac{5}{4\sqrt{3}-\sqrt{2}} \frac{20\sqrt{3}+5\sqrt{2}}{46}$

22) $\frac{5}{-2-\sqrt{3}}$
 $-10+5\sqrt{3}$

Assignment

Date _____ Period _____

Simplify.

1) $\frac{2}{2+4\sqrt{5}}$

2) $\frac{2}{2+\sqrt{3}}$

3) $\frac{2}{5+\sqrt{5}}$

4) $\frac{5}{2\sqrt{2}+4\sqrt{3}}$

5) $\frac{2}{-4+3\sqrt{3}}$

6) $\frac{2}{-3-\sqrt{5}}$

7) $\frac{3}{\sqrt{2}-3\sqrt{5}}$

8) $\frac{3}{3+\sqrt{5}}$

9) $\frac{3\sqrt{5}}{\sqrt{3}+\sqrt{2}}$

10) $\frac{2}{\sqrt{5}-2}$

11) $\frac{2}{5-\sqrt{2}}$

12) $\frac{\sqrt{3}}{\sqrt{5}-5\sqrt{2}}$

13) $\frac{5}{4+5\sqrt{5}}$

14) $\frac{5}{3-5\sqrt{3}}$

15) $\frac{4}{4-3\sqrt{2}}$

16) $\frac{3}{3-5\sqrt{3}}$

17) $\frac{3}{2+3\sqrt{3}}$

18) $\frac{4}{5-3\sqrt{5}}$

19) $-\frac{2}{\sqrt{3}+4\sqrt{2}}$

20) $\frac{4}{5-\sqrt{2}}$

21) $\frac{5}{\sqrt{2}+\sqrt{5}}$

22) $\frac{5}{3-\sqrt{5}}$

Assignment

Date _____ Period _____

Simplify.

1) $\frac{2}{2+4\sqrt{5}} \frac{-1+2\sqrt{5}}{19}$

2) $\frac{2}{2+\sqrt{3}}$

$4-2\sqrt{3}$

3) $\frac{2}{5+\sqrt{5}} \frac{5-\sqrt{5}}{10}$

4) $\frac{5}{2\sqrt{2}+4\sqrt{3}} \frac{-\sqrt{2}+2\sqrt{3}}{4}$

5) $\frac{2}{-4+3\sqrt{3}} \frac{8+6\sqrt{3}}{11}$

6) $\frac{2}{-3-\sqrt{5}} \frac{-3+\sqrt{5}}{2}$

7) $\frac{3}{\sqrt{2}-3\sqrt{5}} \frac{-3\sqrt{2}-9\sqrt{5}}{43}$

8) $\frac{3}{3+\sqrt{5}} \frac{9-3\sqrt{5}}{4}$

9) $\frac{3\sqrt{5}}{\sqrt{3}+\sqrt{2}}$

10) $\frac{2}{\sqrt{5}-2}$

$3\sqrt{15}-3\sqrt{10}$

$2\sqrt{5}+4$

11) $\frac{2}{5-\sqrt{2}} \frac{10+2\sqrt{2}}{23}$

12) $\frac{\sqrt{3}}{\sqrt{5}-5\sqrt{2}} \frac{-\sqrt{15}-5\sqrt{6}}{45}$

13) $\frac{5}{4+5\sqrt{5}} \frac{-20+25\sqrt{5}}{109}$

14) $\frac{5}{3-5\sqrt{3}} \frac{-15-25\sqrt{3}}{66}$

15) $\frac{4}{4-3\sqrt{2}}$

16) $\frac{3}{3-5\sqrt{3}} \frac{-3-5\sqrt{3}}{22}$

$-8-6\sqrt{2}$

17) $\frac{3}{2+3\sqrt{3}} \frac{-6+9\sqrt{3}}{23}$

18) $\frac{4}{5-3\sqrt{5}} \frac{-5-3\sqrt{5}}{5}$

19) $-\frac{2}{\sqrt{3}+4\sqrt{2}} \frac{2\sqrt{3}-8\sqrt{2}}{29}$

20) $\frac{4}{5-\sqrt{2}} \frac{20+4\sqrt{2}}{23}$

21) $\frac{5}{\sqrt{2}+\sqrt{5}} \frac{-5\sqrt{2}+5\sqrt{5}}{3}$

22) $\frac{5}{3-\sqrt{5}} \frac{15+5\sqrt{5}}{4}$

Assignment

Date _____ Period _____

Simplify.

1) $-\frac{2}{2-\sqrt{5}}$

2) $-\frac{2}{2-\sqrt{2}}$

3) $\frac{5}{2+\sqrt{5}}$

4) $\frac{3}{2\sqrt{5}-5}$

5) $\frac{2}{-2-5\sqrt{3}}$

6) $\frac{2}{4+\sqrt{2}}$

7) $\frac{5\sqrt{3}}{-1+\sqrt{2}}$

8) $\frac{2}{2-\sqrt{2}}$

9) $\frac{5}{-5+5\sqrt{3}}$

10) $\frac{2\sqrt{5}}{\sqrt{3}-4\sqrt{5}}$

11) $\frac{4}{2-\sqrt{2}}$

12) $\frac{3}{-1-\sqrt{3}}$

13) $\frac{5}{4-\sqrt{5}}$

14) $\frac{5}{-4+4\sqrt{3}}$

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

16) $\frac{2}{\sqrt{3}-4\sqrt{5}}$

17) $\frac{3}{-2-4\sqrt{3}}$

18) $\frac{2}{2\sqrt{3}+\sqrt{5}}$

19) $\frac{2}{4-2\sqrt{3}}$

20) $\frac{4}{2\sqrt{3}-\sqrt{2}}$

21) $\frac{4}{5+4\sqrt{5}}$

22) $\frac{5}{5+4\sqrt{2}}$

Assignment

Date _____ Period _____

Simplify.

1)
$$-\frac{2}{2-\sqrt{5}}$$
$$4+2\sqrt{5}$$

2)
$$-\frac{2}{2-\sqrt{2}}$$
$$-2-\sqrt{2}$$

3)
$$\frac{5}{2+\sqrt{5}}$$
$$-10+5\sqrt{5}$$

4)
$$\frac{3}{2\sqrt{5}-5}$$
$$\frac{-6\sqrt{5}-15}{5}$$

5)
$$\frac{2}{-2-5\sqrt{3}}$$
$$\frac{4-10\sqrt{3}}{71}$$

6)
$$\frac{2}{4+\sqrt{2}}$$
$$\frac{4-\sqrt{2}}{7}$$

7)
$$\frac{5\sqrt{3}}{-1+\sqrt{2}}$$
$$5\sqrt{3}+5\sqrt{6}$$

8)
$$\frac{2}{2-\sqrt{2}}$$
$$2+\sqrt{2}$$

9)
$$\frac{5}{-5+5\sqrt{3}}$$
$$\frac{1+\sqrt{3}}{2}$$

10)
$$\frac{2\sqrt{5}}{\sqrt{3}-4\sqrt{5}}$$
$$\frac{-2\sqrt{15}-40}{77}$$

11)
$$\frac{4}{2-\sqrt{2}}$$
$$4+2\sqrt{2}$$

12)
$$\frac{3}{-1-\sqrt{3}}$$
$$\frac{3-3\sqrt{3}}{2}$$

13)
$$\frac{5}{4-\sqrt{5}}$$
$$\frac{20+5\sqrt{5}}{11}$$

14)
$$\frac{5}{-4+4\sqrt{3}}$$
$$\frac{5+5\sqrt{3}}{8}$$

15)
$$\frac{5\sqrt{2}}{2+\sqrt{2}}$$
$$5\sqrt{2}-5$$

16)
$$\frac{2}{\sqrt{3}-4\sqrt{5}}$$
$$\frac{-2\sqrt{3}-8\sqrt{5}}{77}$$

17)
$$\frac{3}{-2-4\sqrt{3}}$$
$$\frac{3-6\sqrt{3}}{22}$$

18)
$$\frac{2}{2\sqrt{3}+\sqrt{5}}$$
$$\frac{4\sqrt{3}-2\sqrt{5}}{7}$$

19)
$$\frac{2}{4-2\sqrt{3}}$$
$$2+\sqrt{3}$$

20)
$$\frac{4}{2\sqrt{3}-\sqrt{2}}$$
$$\frac{4\sqrt{3}+2\sqrt{2}}{5}$$

21)
$$\frac{4}{5+4\sqrt{5}}$$
$$\frac{-20+16\sqrt{5}}{55}$$

22)
$$\frac{5}{5+4\sqrt{2}}$$
$$\frac{-25+20\sqrt{2}}{7}$$

Assignment

Simplify.

1) $\frac{\sqrt{3}}{4\sqrt{5} + 5\sqrt{2}}$

2) $\frac{3}{4\sqrt{2} - 3\sqrt{3}}$

3) $\frac{3}{3\sqrt{2} - 5\sqrt{5}}$

4) $\frac{4}{4 - \sqrt{5}}$

5) $\frac{5}{-4 - \sqrt{2}}$

6) $-\frac{2}{5 + 2\sqrt{3}}$

7) $-\frac{2}{4 + 3\sqrt{3}}$

8) $\frac{4\sqrt{2}}{-2 + 3\sqrt{5}}$

9) $\frac{2}{5 + \sqrt{5}}$

10) $\frac{3}{2 - 2\sqrt{5}}$

11) $-\frac{5}{-2 - \sqrt{5}}$

12) $-\frac{2}{-4 + \sqrt{5}}$

13) $\frac{2}{-1 - \sqrt{2}}$

14) $-\frac{4\sqrt{2}}{5 - \sqrt{2}}$

15) $\frac{\sqrt{5}}{3\sqrt{2} - 2}$

16) $\frac{3}{5 + \sqrt{3}}$

17) $-\frac{3}{4 + \sqrt{2}}$

18) $\frac{2}{4 - \sqrt{5}}$

19) $\frac{4}{2 - \sqrt{3}}$

20) $\frac{5}{2 - \sqrt{2}}$

21) $\frac{3}{-1 - \sqrt{2}}$

22) $\frac{5}{4 + 5\sqrt{2}}$

Assignment

Simplify.

1) $\frac{\sqrt{3}}{4\sqrt{5} + 5\sqrt{2}} \frac{4\sqrt{15} - 5\sqrt{6}}{30}$

2) $\frac{3}{4\sqrt{2} - 3\sqrt{3}} \frac{12\sqrt{2} + 9\sqrt{3}}{5}$

3) $\frac{3}{3\sqrt{2} - 5\sqrt{5}} \frac{-9\sqrt{2} - 15\sqrt{5}}{107}$

4) $\frac{4}{4 - \sqrt{5}} \frac{16 + 4\sqrt{5}}{11}$

5) $\frac{5}{-4 - \sqrt{2}} \frac{-20 + 5\sqrt{2}}{14}$

6) $-\frac{2}{5 + 2\sqrt{3}} \frac{-10 + 4\sqrt{3}}{13}$

7) $-\frac{2}{4 + 3\sqrt{3}} \frac{8 - 6\sqrt{3}}{11}$

8) $\frac{4\sqrt{2}}{-2 + 3\sqrt{5}} \frac{8\sqrt{2} + 12\sqrt{10}}{41}$

9) $\frac{2}{5 + \sqrt{5}} \frac{5 - \sqrt{5}}{10}$

10) $\frac{3}{2 - 2\sqrt{5}} \frac{-3 - 3\sqrt{5}}{8}$

11) $-\frac{5}{-2 - \sqrt{5}} \frac{-10 + 5\sqrt{5}}{11}$

12) $-\frac{2}{-4 + \sqrt{5}} \frac{8 + 2\sqrt{5}}{11}$

13) $\frac{2}{-1 - \sqrt{2}} \frac{2 - 2\sqrt{2}}{23}$

14) $-\frac{4\sqrt{2}}{5 - \sqrt{2}} \frac{-20\sqrt{2} - 8}{23}$

15) $\frac{\sqrt{5}}{3\sqrt{2} - 2} \frac{3\sqrt{10} + 2\sqrt{5}}{14}$

16) $\frac{3}{5 + \sqrt{3}} \frac{15 - 3\sqrt{3}}{22}$

17) $-\frac{3}{4 + \sqrt{2}} \frac{-12 + 3\sqrt{2}}{14}$

18) $\frac{2}{4 - \sqrt{5}} \frac{8 + 2\sqrt{5}}{11}$

19) $\frac{4}{2 - \sqrt{3}} \frac{8 + 4\sqrt{3}}{2}$

20) $\frac{5}{2 - \sqrt{2}} \frac{10 + 5\sqrt{2}}{2}$

21) $\frac{3}{-1 - \sqrt{2}} \frac{3 - 3\sqrt{2}}{34}$

22) $\frac{5}{4 + 5\sqrt{2}} \frac{-20 + 25\sqrt{2}}{34}$