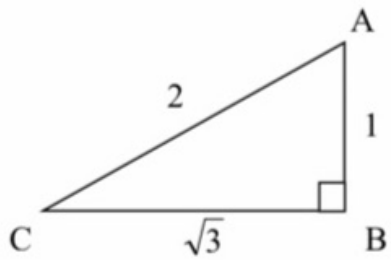
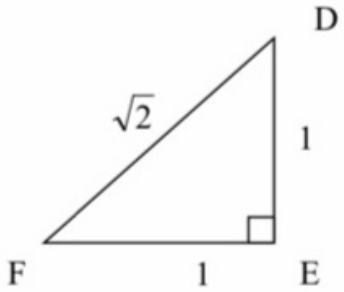
Rationalizing Denominators Worksheet Name_____

Simplify the first 15 perfect square roots.

$\sqrt{1} = 1$	$\sqrt{25} = 5$	$\sqrt{9} = 3$
$\sqrt{4} = 2$	$\sqrt{100} = 10$	$\sqrt{64} = 8$
$\sqrt{121} = 11$	$\sqrt{36} = 6$	$\sqrt{196} = 14$
$\sqrt{81} = 9$	$\sqrt{16} = 4$	$\sqrt{49} = 7$
$\sqrt{144} = 12$	$\sqrt{225} = 15$	$\sqrt{169} = 13$

Find each ratio. Rationalize the denominator when possible.





a.) $\frac{AB}{AC} = \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} \rightarrow \frac{\sqrt{3}}{3}$

b.) $\frac{DE}{EF} = \frac{1}{1} = 1$

c.) $\frac{EF}{DF} = \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

d.) $\frac{AB}{CB} = \frac{1}{2}$

e.) $\frac{BC}{AC} = \frac{\sqrt{3}}{2}$

f.) $\frac{DE}{DF} = \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

g.) $\frac{DF}{FE} = \frac{\sqrt{2}}{1} = \sqrt{2}$

h.) $\frac{AC}{AB} = \frac{2}{1} = 2$

i.) $\frac{AC}{CB} = \frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$

Rationalize each denominator and write in simplest form.

1. $\frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

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

3. $\frac{1}{\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \frac{\sqrt{7}}{7}$

4. $\frac{6}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{6\sqrt{2}}{2} = 3\sqrt{2}$

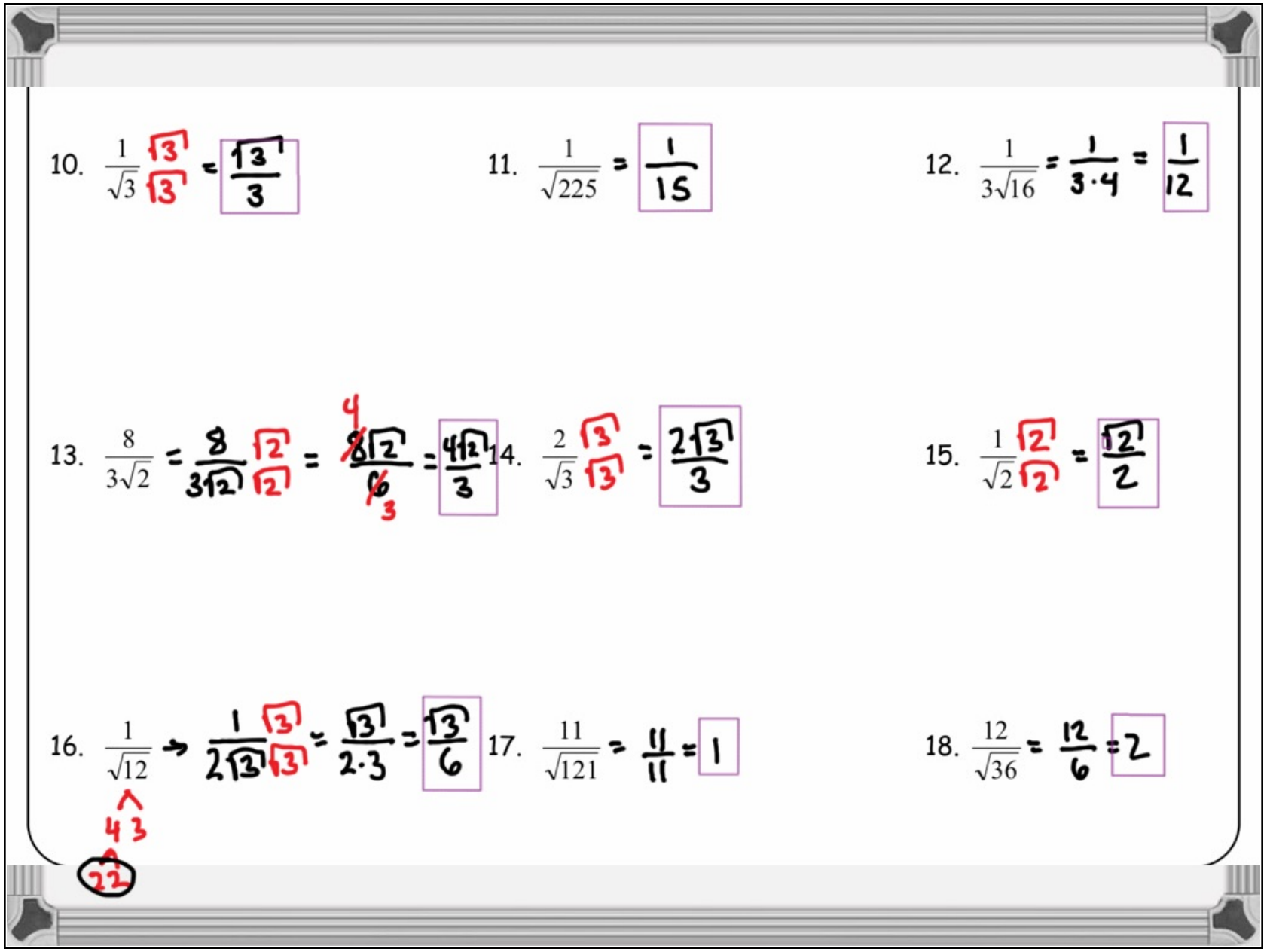
5. $\frac{15}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{15\sqrt{5}}{5} = 3\sqrt{5}$

6. $\frac{42}{\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \frac{42\sqrt{7}}{7} = 6\sqrt{7}$

7. $\frac{1}{\sqrt{81}} = \frac{1}{9}$

8. $\frac{2}{\sqrt{11}} \cdot \frac{\sqrt{11}}{\sqrt{11}} = \frac{2\sqrt{11}}{11}$

9. $\frac{4}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{4\sqrt{2}}{2} = 2\sqrt{2}$



10. $\frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

11. $\frac{1}{\sqrt{225}} = \frac{1}{15}$

12. $\frac{1}{3\sqrt{16}} = \frac{1}{3 \cdot 4} = \frac{1}{12}$

13. $\frac{8}{3\sqrt{2}} = \frac{8}{3\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{8\sqrt{2}}{6} = \frac{4\sqrt{2}}{3}$

14. $\frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$

15. $\frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

16. $\frac{1}{\sqrt{12}} \rightarrow \frac{1}{2\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{2 \cdot 3} = \frac{\sqrt{3}}{6}$

17. $\frac{11}{\sqrt{121}} = \frac{11}{11} = 1$

18. $\frac{12}{\sqrt{36}} = \frac{12}{6} = 2$

4 3

22