math Antics Worksheets

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# Simplifying Fractions

F-SIM 1

**Instructions:** Simplify these fractions using the procedure you learned in the video. Cancel common factors and remultiply any remaining factors to get your final answer.

1. $\frac{12}{14} = \frac{2 \times 2 \times 3}{2 \times 7} = \frac{6}{7}$
2. $\frac{5}{10} = \frac{5 \times 1}{5 \times 2} = \frac{1}{2}$
3. $\frac{6}{9} = \frac{3 \times 2}{3 \times 3} = \frac{2}{3}$
4. $\frac{9}{12} = \frac{3 \times 3}{2 \times 2 \times 3} = \frac{3}{4}$
5. $\frac{7}{21} = \frac{1 \times 7}{3 \times 7} = \frac{1}{3}$
6. $\frac{14}{16} = \frac{2 \times 7}{2 \times 2 \times 2 \times 2} = \frac{7}{8}$
7. $\frac{7}{14} = \frac{1 \times 7}{2 \times 7} = \frac{1}{2}$
8. $\frac{15}{40} = \frac{3 \times 5}{2 \times 2 \times 2 \times 5} = \frac{3}{8}$
9. $\frac{5}{20} = \frac{1 \times 5}{2 \times 2 \times 5} = \frac{1}{4}$
10. $\frac{22}{44} = \frac{2 \times 11}{2 \times 2 \times 11} = \frac{1}{2}$
11. $\frac{8}{12} = \frac{2 \times 2 \times 2}{2 \times 2 \times 3} = \frac{2}{3}$
12. $\frac{20}{24} = \frac{2 \times 2 \times 5}{2 \times 2 \times 2 \times 3} = \frac{5}{6}$
13. $\frac{10}{15} = \frac{2 \times 5}{3 \times 5} = \frac{2}{3}$
14. $\frac{25}{30} = \frac{5 \times 5}{5 \times 2 \times 3} = \frac{5}{6}$
15. $\frac{18}{24} = \frac{2 \times 3 \times 3}{2 \times 2 \times 2 \times 3} = \frac{3}{4}$
16. $\frac{16}{36} = \frac{2 \times 2 \times 2 \times 2}{2 \times 3 \times 2 \times 3} = \frac{4}{9}$
17. $\frac{10}{25} = \frac{2 \times 5}{5 \times 5} = \frac{2}{5}$
18. $\frac{35}{50} = \frac{5 \times 7}{2 \times 5 \times 5} = \frac{7}{10}$

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# Simplifying Fractions - Set 2

F-SIM 2

**Instructions:** Simplify these fractions using the procedure you learned in the video. Cancel any common factors and remultiply remaining factors to get your final answer.

1. $\frac{15}{20} = \frac{3 \times 5}{2 \times 2 \times 5} = \frac{3}{4}$
2. $\frac{16}{30} = \frac{2 \times 2 \times 2 \times 2}{2 \times 3 \times 5} = \frac{8}{15}$
3. $\frac{12}{18} = \frac{2 \times 2 \times 3}{2 \times 3 \times 3} = \frac{2}{3}$
4. $\frac{15}{45} = \frac{3 \times 5}{3 \times 3 \times 5} = \frac{1}{3}$
5. $\frac{20}{25} = \frac{2 \times 2 \times 5}{5 \times 5} = \frac{4}{5}$
6. $\frac{27}{39} = \frac{3 \times 3 \times 3}{3 \times 13} = \frac{9}{13}$
7. $\frac{14}{21} = \frac{2 \times 7}{3 \times 7} = \frac{2}{3}$
8. $\frac{48}{72} = \frac{2 \times 2 \times 2 \times 2 \times 3}{2 \times 2 \times 2 \times 3 \times 3} = \frac{2}{3}$
9. $\frac{20}{32} = \frac{2 \times 2 \times 5}{2 \times 2 \times 2 \times 2 \times 2} = \frac{5}{8}$
10. $\frac{32}{40} = \frac{2 \times 2 \times 2 \times 2 \times 2}{2 \times 2 \times 2 \times 5} = \frac{4}{5}$
11. $\frac{18}{36} = \frac{2 \times 3 \times 3}{2 \times 3 \times 2 \times 3} = \frac{1}{2}$
12. $\frac{45}{125} = \frac{3 \times 3 \times 5}{5 \times 5 \times 5} = \frac{9}{25}$
13. $\frac{42}{63} = \frac{2 \times 3 \times 7}{3 \times 3 \times 7} = \frac{2}{3}$
14. $\frac{63}{105} = \frac{3 \times 3 \times 7}{5 \times 3 \times 7} = \frac{3}{5}$
15. $\frac{60}{75} = \frac{2 \times 3 \times 2 \times 5}{3 \times 5 \times 5} = \frac{4}{5}$
16. $\frac{42}{140} = \frac{2 \times 3 \times 7}{2 \times 2 \times 5 \times 7} = \frac{3}{10}$
17. $\frac{36}{84} = \frac{2 \times 2 \times 3 \times 3}{2 \times 2 \times 3 \times 7} = \frac{3}{7}$
18. $\frac{33}{121} = \frac{3 \times 11}{11 \times 11} = \frac{3}{11}$

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# Simpler Simplifying

F-SIM 3

**Instructions:** Simplify these fractions using the procedure you learned in the video. Look for **composite** common factors like 4, 6, 8 or 10 that will save you some steps.

1. $\frac{10}{20} = \frac{1 \times 10}{2 \times 10} = \frac{1}{2}$
2. $\frac{12}{16} = \frac{3 \times 4}{4 \times 4} = \frac{3}{4}$
3. $\frac{6}{12} = \frac{6 \times 1}{6 \times 2} = \frac{1}{2}$
4. $\frac{10}{60} = \frac{1 \times 10}{6 \times 10} = \frac{1}{6}$
5. $\frac{30}{40} = \frac{3 \times 10}{4 \times 10} = \frac{3}{4}$
6. $\frac{24}{40} = \frac{3 \times 8}{5 \times 8} = \frac{3}{5}$
7. $\frac{16}{20} = \frac{4 \times 4}{5 \times 4} = \frac{4}{5}$
8. $\frac{32}{56} = \frac{4 \times 8}{7 \times 8} = \frac{4}{7}$
9. $\frac{8}{12} = \frac{2 \times 4}{3 \times 4} = \frac{2}{3}$
10. $\frac{30}{80} = \frac{3 \times 10}{8 \times 10} = \frac{3}{8}$
11. $\frac{40}{64} = \frac{5 \times 8}{8 \times 8} = \frac{5}{8}$
12. $\frac{18}{30} = \frac{3 \times 6}{5 \times 6} = \frac{3}{5}$
13. $\frac{60}{70} = \frac{6 \times 10}{7 \times 10} = \frac{6}{7}$
14. $\frac{24}{36} = \frac{2 \times 2 \times 6}{2 \times 3 \times 6} = \frac{2}{3}$
15. $\frac{30}{36} = \frac{5 \times 6}{6 \times 6} = \frac{5}{6}$
16. $\frac{40}{60} = \frac{2 \times 2 \times 10}{2 \times 3 \times 10} = \frac{2}{3}$
17. $\frac{18}{24} = \frac{3 \times 6}{4 \times 6} = \frac{3}{4}$
18. $\frac{64}{72} = \frac{8 \times 8}{9 \times 8} = \frac{8}{9}$

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# Could it be Simpler?

F-SIM 4

**Instructions:** Tell whether the fraction could be simplified. Check '**yes**' if you think it could be simplified. Check '**no**' if you think the fraction is already as simple as it can be.

**Examples**

$\frac{1}{2}$ ☐ yes ☒ no — already as simple as it can be

$\frac{2}{4}$ ☒ yes ☐ no — this can be simplified

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | $\frac{2}{3}$ | ☐ yes ☒ no | 2 | $\frac{8}{20}$ | ☒ yes ☐ no | 3 | $\frac{5}{10}$ | ☒ yes ☐ no |
| 4 | $\frac{3}{4}$ | ☐ yes ☒ no | 5 | $\frac{5}{25}$ | ☒ yes ☐ no | 6 | $\frac{7}{9}$ | ☐ yes ☒ no |
| 7 | $\frac{14}{44}$ | ☒ yes ☐ no | 8 | $\frac{15}{21}$ | ☒ yes ☐ no | 9 | $\frac{1}{16}$ | ☐ yes ☒ no |
| 10 | $\frac{6}{7}$ | ☐ yes ☒ no | 11 | $\frac{33}{44}$ | ☒ yes ☐ no | 12 | $\frac{6}{15}$ | ☒ yes ☐ no |
| 13 | $\frac{9}{27}$ | ☒ yes ☐ no | 14 | $\frac{11}{13}$ | ☐ yes ☒ no | 15 | $\frac{3}{8}$ | ☐ yes ☒ no |
| 16 | $\frac{4}{18}$ | ☒ yes ☐ no | 17 | $\frac{9}{16}$ | ☐ yes ☒ no | 18 | $\frac{8}{64}$ | ☒ yes ☐ no |
| 19 | $\frac{7}{15}$ | ☐ yes ☒ no | 20 | $\frac{23}{55}$ | ☐ yes ☒ no | 21 | $\frac{3}{30}$ | ☒ yes ☐ no |
| 22 | $\frac{12}{44}$ | ☒ yes ☐ no | 23 | $\frac{9}{81}$ | ☒ yes ☐ no | 24 | $\frac{13}{26}$ | ☒ yes ☐ no |