Esercizi sulla proprietà invariantiva delle frazioni

1. Trovare la frazione equivalente applicando le operazioni proposte:

1.1. $\overset{\cdot 2}{\underset{\cdot 2}{\frac{2}{3} = \frac{\quad}{\quad}}}$

1.2. $\overset{\cdot 3}{\underset{\cdot 3}{\frac{1}{3} = \frac{\quad}{\quad}}}$

1.3. $\overset{\cdot 3}{\underset{\cdot 3}{\frac{1}{2} = \frac{\quad}{\quad}}}$

1.4. $\overset{\cdot 4}{\underset{\cdot 4}{\frac{3}{4} = \frac{\quad}{\quad}}}$

1.5. $\overset{: 2}{\underset{: 2}{\frac{4}{6} = \frac{\quad}{\quad}}}$

1.6. $\overset{: 2}{\underset{: 2}{\frac{8}{6} = \frac{\quad}{\quad}}}$

1.7. $\overset{\cdot 2}{\underset{\cdot 2}{\frac{4}{5} = \frac{\quad}{\quad}}}$

1.8. $\overset{\cdot 5}{\underset{\cdot 5}{\frac{9}{2} = \frac{\quad}{\quad}}}$

1.9. $\overset{\cdot 4}{\underset{\cdot 4}{\frac{7}{4} = \frac{\quad}{\quad}}}$

1.10. $\overset{\cdot 10}{\underset{\cdot 10}{\frac{2}{3} = \frac{\quad}{\quad}}}$

1.11. $\overset{: 4}{\underset{: 4}{\frac{16}{12} = \frac{\quad}{\quad}}}$

1.12. $\overset{: 5}{\underset{: 5}{\frac{15}{25} = \frac{\quad}{\quad}}}$

2. Trovare una frazione equivalente per ciascuna delle seguenti frazioni:

2.1. $\frac{1}{2} = \frac{\quad}{\quad}$

2.2. $\frac{2}{3} = \frac{\quad}{\quad}$

2.3. $\frac{8}{6} = \frac{\quad}{\quad}$

2.4. $\frac{10}{6} = \frac{\quad}{\quad}$

2.5. $\frac{15}{20} = \frac{\quad}{\quad}$

2.6. $\frac{7}{5} = \frac{\quad}{\quad}$

2.7. $\frac{5}{8} = \frac{\quad}{\quad}$

2.8. $\frac{14}{28} = \frac{\quad}{\quad}$

2.9. $\frac{26}{28} = \frac{\quad}{\quad}$

2.10. $\frac{12}{15} = \frac{\quad}{\quad}$

2.11. $\frac{21}{7} = \frac{\quad}{\quad}$

2.12. $\frac{20}{14} = \frac{\quad}{\quad}$

2.13. $\frac{1}{31} = \frac{\quad}{\quad}$

2.14. $\frac{48}{72} = \frac{\quad}{\quad}$

2.15. $\frac{25}{65} = \frac{\quad}{\quad}$

2.16. $\frac{70}{90} = \frac{\quad}{\quad}$

2.17. $\frac{34}{72} = \frac{\quad}{\quad}$

2.18. $\frac{15}{95} = \frac{\quad}{\quad}$

2.19. $\frac{46}{39} = \frac{\quad}{\quad}$

2.20. $\frac{17}{92} = \frac{\quad}{\quad}$

2.21. $\frac{87}{140} = \frac{\quad}{\quad}$

2.22. $\frac{182}{306} = \frac{\quad}{\quad}$

2.23. $\frac{133}{439} = \frac{\quad}{\quad}$

2.24. $\frac{207}{405} = \frac{\quad}{\quad}$

3. Applicare la proprietà invariantiva alle frazioni seguenti, dimostrando graficamente la correttezza dei risultati (seguire l'esempio):

Esempio:

$\frac{1}{2}$

$\frac{1 \cdot 2}{2 \cdot 2} = \mathbf{\frac{2}{4}}$

3.1. $\frac{1}{3}$

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

3.3. $\frac{10}{12}$

3.4. $\frac{4}{6}$

3.5. $\frac{12}{16}$

3.6. $\frac{4}{5}$

3.7. $\frac{7}{8}$

3.8. $\frac{10}{15}$

3.9. $\frac{16}{18}$

3.10. $\frac{9}{12}$

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

3.12. $\frac{2}{7}$

3.13. $\frac{12}{21}$

3.14. $\frac{18}{20}$

3.15. $\frac{14}{15}$

3.16. $\frac{7}{9}$

3.17. $\frac{4}{9}$

3.18. $\frac{10}{30}$

3.19. $\frac{14}{42}$

3.20. $\frac{17}{34}$

3.21. $\frac{25}{40}$

3.22. $\frac{18}{36}$

3.23. $\frac{13}{39}$

3.24. $\frac{27}{45}$

4. Inserire il numero mancante rispettando l'uguaglianza (eventualmente, ridurre ai minimi termini la frazione presente):

4.1. $\frac{1}{2} = \frac{\quad}{4}$

4.2. $\frac{2}{3} = \frac{\quad}{6}$

4.3. $\frac{4}{3} = \frac{8}{\quad}$

4.4. $\frac{9}{5} = \frac{\quad}{15}$

4.5. $\frac{10}{3} = \frac{20}{\quad}$

4.6. $\frac{14}{20} = \frac{\quad}{10}$

4.7. $\frac{7}{6} = \frac{28}{\quad}$

4.8. $\frac{12}{13} = \frac{24}{\quad}$

4.9. $\frac{11}{24} = \frac{44}{\quad}$

4.10. $\frac{19}{21} = \frac{\quad}{42}$

4.11. $\frac{17}{21} = \frac{51}{\quad}$

4.12. $\frac{15}{31} = \frac{30}{\quad}$

4.13. $\frac{7}{10} = \frac{\quad}{50}$

4.14. $\frac{49}{14} = \frac{\quad}{10}$

4.15. $\frac{25}{45} = \frac{\quad}{18}$

4.16. $\frac{16}{48} = \frac{2}{\quad}$

4.17. $\frac{2}{18} = \frac{\quad}{27}$

4.18. $\frac{100}{25} = \frac{16}{\quad}$

4.19. $\frac{18}{21} = \frac{\quad}{49}$

4.20. $\frac{60}{40} = \frac{\quad}{14}$

4.21. $\frac{105}{21} = \frac{15}{\quad}$

4.22. $\frac{3}{4} = \frac{123}{\quad}$

4.23. $\frac{7}{21} = \frac{\quad}{99}$

4.24. $\frac{84}{17} = \frac{\quad}{85}$

4.25. $\frac{48}{144} = \frac{\quad}{87}$

4.26. $\frac{15}{165} = \frac{\quad}{33}$

4.27. $\frac{19}{114} = \frac{\quad}{12}$

4.28. $\frac{39}{117} = \frac{6}{\quad}$

4.29. $\frac{41}{205} = \frac{\quad}{25}$

4.30. $\frac{17}{102} = \frac{14}{\quad}$

5. Completare inserendo il numero mancante:

5.1. $\frac{1}{2} = \frac{\quad}{4} = \frac{4}{\quad} = \frac{\quad}{10}$

5.2. $\frac{1}{3} = \frac{\quad}{6} = \frac{3}{\quad} = \frac{\quad}{15}$

5.3. $\frac{2}{3} = \frac{6}{\quad} = \frac{\quad}{15} = \frac{\quad}{30}$

5.4. $\frac{2}{5} = \frac{8}{\quad} = \frac{\quad}{30} = \frac{20}{\quad}$

5.5. $\frac{1}{4} = \frac{4}{\quad} = \frac{\quad}{24} = \frac{\quad}{44}$

5.6. $\frac{3}{4} = \frac{9}{\quad} = \frac{\quad}{20} = \frac{30}{\quad}$

5.7. $\frac{5}{2} = \frac{10}{\quad} = \frac{\quad}{14} = \frac{45}{\quad}$

5.8. $\frac{7}{6} = \frac{\quad}{18} = \frac{28}{\quad} = \frac{\quad}{54}$

5.9. $\frac{4}{9} = \frac{16}{\quad} = \frac{\quad}{72} = \frac{40}{\quad}$

5.10. $\frac{10}{3} = \frac{20}{\quad} = \frac{\quad}{12} = \frac{90}{\quad}$

5.11. $\frac{7}{11} = \frac{14}{\quad} = \frac{\quad}{44} = \frac{42}{\quad}$

5.12. $\frac{12}{5} = \frac{36}{\quad} = \frac{60}{\quad} = \frac{\quad}{50}$

5.13. $\frac{11}{9} = \frac{33}{\quad} = \frac{\quad}{45} = \frac{99}{\quad}$

5.14. $\frac{13}{6} = \frac{\quad}{12} = \frac{39}{\quad} = \frac{\quad}{48}$

5.15. $\frac{17}{15} = \frac{34}{\quad} = \frac{\quad}{45} = \frac{\quad}{75}$

5.16. $\frac{1}{16} = \frac{2}{\quad} = \frac{3}{\quad} = \frac{\quad}{80}$

5.17. $\frac{8}{19} = \frac{24}{\quad} = \frac{32}{\quad} = \frac{\quad}{95}$

5.18. $\frac{12}{31} = \frac{24}{\quad} = \frac{\quad}{93} = \frac{60}{\quad}$

5.19. $\frac{16}{23} = \frac{32}{\quad} = \frac{\quad}{69} = \frac{80}{\quad}$

5.20. $\frac{21}{41} = \frac{42}{\quad} = \frac{\quad}{123} = \frac{105}{\quad}$

5.21. $\frac{10}{30} = \frac{\quad}{3} = \frac{4}{\quad} = \frac{\quad}{60}$

5.22. $\frac{25}{45} = \frac{5}{\quad} = \frac{\quad}{18} = \frac{20}{\quad}$

5.23. $\frac{18}{36} = \frac{\quad}{2} = \frac{15}{\quad} = \frac{5}{\quad}$

5.24. $\frac{20}{35} = \frac{\quad}{7} = \frac{\quad}{21} = \frac{48}{\quad}$

5.25. $\frac{40}{50} = \frac{\quad}{5} = \frac{28}{\quad} = \frac{\quad}{105}$

5.26. $\frac{63}{48} = \frac{\quad}{16} = \frac{84}{\quad} = \frac{\quad}{32}$

5.27. $\frac{100}{45} = \frac{20}{\quad} = \frac{\quad}{54} = \frac{60}{\quad}$

5.28. $\frac{125}{75} = \frac{\quad}{3} = \frac{35}{\quad} = \frac{\quad}{126}$

5.29. $\frac{180}{48} = \frac{\quad}{4} = \frac{45}{\quad} = \frac{\quad}{60}$

5.30. $\frac{290}{310} = \frac{\quad}{31} = \frac{58}{\quad} = \frac{174}{\quad}$