

EXERCISES (SOLUTIONS): FRACTIONS

1. a) 21 students (fraction as a part of a whole).
b) 10 km (fraction as a result of a measure or fraction as a ratio).
c) 125 squared meters (fraction as an operator or as a part of a whole).
d) $\frac{1}{5}$ of the total of pizzas (fraction as a result of a sharing out).
2. 24; $\frac{28}{3}$
3. For example: $\frac{1}{2} - \frac{1}{6} = \frac{5}{9} - \frac{2}{9} = \frac{1}{6} + \frac{1}{9} + \frac{1}{18} = \frac{1}{3}$
4. $\frac{15}{14} = 1 + \frac{1}{14}$ and $\frac{16}{15} = 1 + \frac{1}{15}$. By using the representation in the number line or by drawing we can proof that $\frac{1}{14}$ is greater than $\frac{1}{15}$ and, therefore, $\frac{15}{14}$ is bigger than $\frac{16}{15}$.
5. a) For example, $\frac{1}{12}$; b) for example, $\frac{1}{2}$; c) For example, $\frac{2}{27}$; d) For example, 1.
6. By adding the same quantity to numerator and denominator we do not obtain an equivalent fraction. By dividing both terms by the same quantity we obtain an equivalent fraction.
7. a) 16 adult people; b) 8 children; c) $\frac{1}{2}$ of men.
8. 100 children, 80 women and 120 men.
9. 30 girls and 18 boys.
10. 350 kg of waist.
11. He has walked faster during the first hour.
12. Wii consumes less.
13. 900 euros.
14. a) $\frac{5}{24}$ of the expenses are national taxes; $\frac{1}{24}$ of the expenses are autonomic taxes; b) The autonomic ones are 45 euros and the national ones are 225 euros.
15. $\frac{9}{32}$
16. $\frac{3}{5}$
17. $\frac{3}{7}$ of the registered students.
18. 200 cm
19. 2250 euros
20. 180 boxes
21. 70 rose bushes.
22. 9 meters. $\frac{9}{35}$ under the water but not hidden in the earth.
23. 150 members.
24. 300 km
25. 1000 meters
26. 24 laps

- 27. 6 glasses
- 28. $\frac{3}{8}$ of kg each jar
- 29. 2.7 cm
- 30. $\frac{9}{20}$ parts of the total
- 32. 30 questions
- 33. a) $\frac{3}{10}$ to Luis; b) 60 stickers; c) 16 stickers more than Nuria; d) It lacks 20 stickers.
- 34. 56 euros.
- 35. a) $\frac{4}{11}$; b) $\frac{1}{7}$; c) $\frac{67}{315}$; d) $\frac{5}{12}$