

Let's Practise Using the Bar Model: Fractions and Decimals (Year 6)

Name.....

Date..... Class.....

In this pack, you will meet Buzz, Armstrong and Sharman who are all astronauts on a mission to space.

1. Buzz read $\frac{1}{4}$ of the instruction manual for the space ship on Saturday and read the remaining 180 pages on Sunday. How many pages were in the manual?



2. 200 people went to the space exhibition. One tenth went to the space simulation and 0.25 went to the live spacewalk demonstration. How many people went to the space simulation or the spacewalk demonstration?



3. Buzz brings £240 on the mission. He spends $\frac{5}{8}$ of it on board the spaceship. How much does he have left?



£ _____

4. The space dial reads that the ship is moving at 300 light years per second. Its speed increases by $\frac{1}{3}$. How fast is it travelling now?



5. Buzz has half of his drinking pouch filled with water. He drinks a quarter of it. What fraction of his drinking pouch still has water in it?



6. Buzz has $\frac{1}{3}$ of the personal items that Sharman does. After Sharman gives Buzz 12 of her items, they have the same amount. How many items do they have in total?



7. The control panel has red and yellow buttons. 36 of the buttons are yellow, a quarter are red. How many buttons are there on the control panel?



8. On board the spaceship, there is 2,786ml of water available for washing. Buzz uses $\frac{3}{14}$ of the water for his shower. How much water is left for the other astronauts?



9. The spacecraft needs some new protective painting work done. Armstrong argues “ $\frac{2}{5}$ of a paint pot is more than 0.25 of a paint pot”. Is he correct? Prove it using bar models.



10. On board, the astronauts have a computer to play games during their down time. Sharman notices a $\frac{1}{5}$ off sticker on the game which now cost £40. How much was it originally?



£ _____

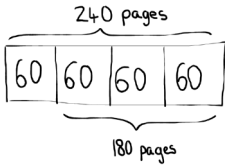
11. Another computer game was now £60; it had been reduced by $\frac{2}{5}$. How much was it originally?



£ _____

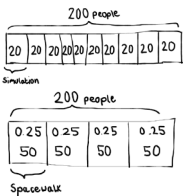
Answers:

- 1 Buzz read $\frac{1}{4}$ of the instruction manual for the space ship on Saturday and read the remaining 180 pages on Sunday. How many pages were in the manual?



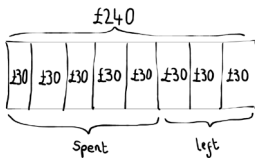
Answer: 240 pages
Content: 6F4; 6F2

- 2 200 people went to the space exhibition. One tenth went to the space simulation and 0.25 went to the live spacewalk demonstration. How many people went to the space simulation or the spacewalk demonstration?



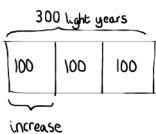
Answer: 70 people
Content: 6F6; 6F11

- 3 Buzz brings £240 on the mission. He spends $\frac{5}{8}$ of it on board the spaceship. How much does he have left?



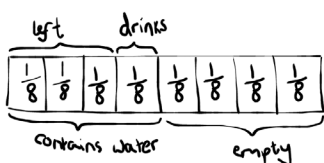
Answer: £90
Content: 6F2

- 4 The space dial reads that the ship is moving at 300 light years per second. Its speed increases by $\frac{1}{3}$. How fast is it travelling now?



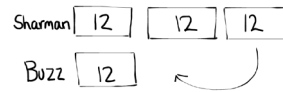
Answer: 400 light years
Content: 6F4; 6F2

- 5 Buzz has half of his drinking pouch filled with water. He drinks a quarter of it. What fraction of his drinking pouch still has water in it?



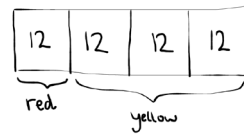
Answer: $\frac{3}{8}$
Content: 6F5B

- 6 Buzz has $\frac{1}{3}$ of the personal items that Sharman does. After Sharman gives Buzz 12 of her items, they have the same amount. How many items do they have in total?



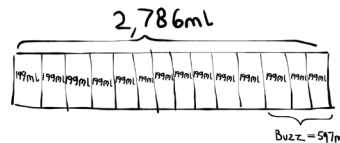
Answer: 48 items
Content: 6F4

- 7 The control panel has red and yellow buttons. 36 of the buttons are yellow, a quarter are red. How many buttons are there on the control panel?



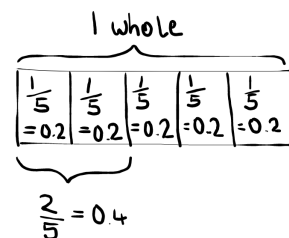
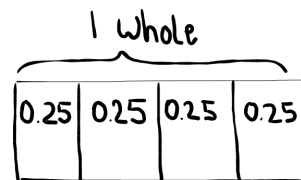
Answer: 48 buttons
Content: 6F4

- 8 On board the spaceship, there is 2,786ml of water available for washing. Buzz uses $\frac{3}{14}$ of the water for his shower. How much water is left for the other astronauts?

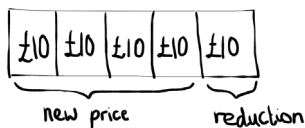


Answer: 597ml
Content: 6C7B

- 9 The spacecraft needs some new protective painting work done. Armstrong argues " $\frac{2}{5}$ of a paint pot is more than 0.25 of a paint pot". Is he correct? Prove it using bar models.
Answer: He is correct (see bar models)
Content: 6F3



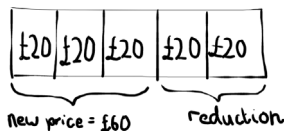
- 10 On board, the astronauts have a computer to play games during their down time. Sharman notices a $\frac{1}{5}$ off sticker on the game which now cost £40. How much was it originally?



Answer: £50

Content: 6F5B; 6F11

- 11 Another computer game was now £60; it had been reduced by $\frac{2}{5}$. How much was it originally?



Answer: £100

Content: 6F5B; 6F11