Finding Percentages of Different Numbers

Problem

In a survey of 120 students it was found that 20% had personal stereos. How many students had personal stereos?

There are many ways to solve the problem. Here are three:				
	A	Change the percentage to a decimal, then multiply by the number of students. 20% = 0.20 $120 \times 0.20 = 24$		
	В	Convert the percentage into a fraction in its simplest terms. Divide the number of students by the denominator then multiply by the numerator.		
	B () 2 1 5	$20\% = \frac{20}{100} = \frac{10}{50} = \frac{1}{5}$		
		$\frac{1}{5}$ of 120 = 120 ÷ 5 = 24		
	С	Find 1% of the number of students by dividing by 100. Multiply by the percentage needed. 100% = 120 1% = 1.20 $20\% = 20 \times 1.20 = 24$		
	Find these answers using method A:			
1. 25% of 32		5% of 32 2. 75% of 36	3. 80% of 35	

Find these answers using method B:

4. 10% of 142 5. 20% of 60 6. 35% of 70

Find these answers using method C:

7. 6% of 220 8. 15% of 150 9. 12% of 20

Choose your favourite method to work through this question:

10. 120% of 30

Answers

Find these answers using method A:

1. 25% of 32 25% = 0.25 32 × 0.25 = 8

2. 75% of 36 = 27

3. 80% of 35 = 28

Find these answers using method B:

4. 10% of 142 10% = 10/100 = 1/10 1/10 of 142 = 142 ÷ 10 = 14.2

5. 20% of 60 = 12

6. 35% of 70 = 24.5 or $24\frac{1}{2}$

Find these answers using method C:

7. 6% of 220 100% = 220 1% = 2.2 6% = 6 x 2.2 = 13.2

- 8. 15% of 150 = 22.5 or $22\frac{1}{2}$
- 9. 12% of 20 = 2.4

Choose your favourite method to work through this question:

10. 120% of 30 = 36

Kindly contributed by Jan Long janlong@tiscali.co.uk

N2/L1.9 find simple percentage parts of quantities and measurements. Understand (a) that there are different ways of calculating percentages and be able to use at least one preferred method effectively (b) that knowing a range of methods for use with different numbers can make life easier than a single method applied to all numbers (but the choice remains the learner's). Also suitable for Level 2 Functional Mathematics.