

## Percent Problems

### Finding a Percentage of a Quantity

1. A can of coffee advertises: 10% MORE FOR FREE! A can of coffee normally weighs 30 ounces. How many ounces do you get for free?
2. A-Rod batted 400 times and had a hit 30% of the time. How many hits did he have?
3. Stephon Marbury made 90% of his free throws in a game. He attempted 20 free throws. How many free throws did he make?
4. A reggae band recorded 60 songs. 25% were hits. How many songs were hits?
5. A student scored 75% on a Maths test. If there were a total of 40 marks, how many marks did the student earn?

### Finding the Percent

1. Stephon Marbury made 15 of 20 field goal attempts. What percentage did he shoot?
2. A dog had 10 puppies. 3 were male. What percent were male?
3. I earned 40 marks out of 50 on a Math test. What percent did I earn?
4. I have filled 24 gigabytes of my 40 gigabyte hard drive. What percentage have I filled?
5. I collected 6 pounds of candy on Halloween. I have eaten 4 pounds. What percent have I eaten?

### Finding the Whole

1. Maria bought a dress on 40% discount. She saved a massive \$60. How much did the dress cost originally?
2. Shirts are on sale for 60% of the original price. I paid \$30 for a shirt. What was the original price?
3. Oranges are on sale for 30% of the original price. You pay 75 cents per pound. What was the original price?
4. You own an apartment. If you raise the rent by 6%, you will earn an extra \$90 per month. What is the current monthly rent?
5. A new milking process extracts 8% more milk from each cow. If this gives you 2.4 more quarts of milk, how much milk did you get originally?

# Percent Problems

## Mixed Questions

1. 4% of the computers in a company are broken. If the company has 600 computers, how many are broken?
2. A store increased its 3 year warranty period by  $33\frac{1}{3}\%$ . How long is the warranty period now?
3. Food prices are expected to rise 3% in the next year. If this happens, how much will a basket of groceries that costs \$200 today cost in one year's time?
4. A soccer player made 25 attempts at goal. He made 3 goals. What percent did he make?
5. I have eaten 5 out of 8 cookies. What percent have I eaten?
6. A new manufacturing process increases production by 15%, which is 450 more widgets per day. How many widgets per day did you originally make?
7. You own 40% of an apartment block. Your share is worth \$600,000. What is the total value of the apartment block?
8. You are making your own 'munchies mix'. You like the mix to contain 25% peanuts, 40% sultanas and the rest dried fruit. How much of each ingredient if you want to make 3 kilograms of munchies mix?
9. A cat had a litter of 7 kittens. 5 were female. What percent were female?
10. A batter had hits in 5 of his last 12 at-bats. What percent of hits did he have?
11. 18 out of 30 students prefer reggae to hip-hop. What percent prefer reggae?
12. 1 of the 6 computers in our classroom is broken. What percent is broken?
13. The life of a light bulb is 1,200 hours. The bulb in my room has been burning for 900 hours. What percentage of the life of the bulb have I used?
14. My mother is 5 feet tall. I am 6 feet tall. What percent of my height is my mother's height?
15. Joanna received 32 marks out of 40 on a Maths test. What was her percent mark?

- 16 You own 20% of an apartment. What is the value of your share if the apartment is valued at \$ 400, 000?
17. Complete this markbook for your Maths teacher, by calculating the percent each student received on each test.

Student	Algebra		Geometry	
	Total marks 25 marks	Percent	Total marks 40 marks	Percent
Jim Boy	18		30	
Lilac	22		16	
Moonbeam	8		36	

18. In a world with 5 billion people:  
 70% live in under-developed countries.  
 55% don't have access to adequate medical facilities.  
 Translate these percentages into actual numbers (rounded off sensibly).
19. It takes 20 minutes to install a new software program. It is 40% completed. How many minutes more will it take?
20. A crazy shopkeeper is selling paint on discount. He offers a 50% discount if you come into the shop wearing a purple shirt, and a further 50% discount if you can say 'In your dreams' backwards. A tin of paint originally costs \$64. How much does it cost if you get both discounts?
21. Concrete consists of a mixture of 30% sand, 50% gravel and 20% cement by weight. How many pounds of each would of each would you need to make 1 tonne of concrete?
22. I received a 12% pay rise, and found that my pay increased by \$90 per week. What was my original weekly pay?
23. A cup that is 30% full contains 6 ounces of Coke. How much Coke does the cup hold?
24. I am running in a 15 mile race. I have completed 21% of the course. How much further do I have to run?
25. A 'Christmas mix' of nuts contains 5 lbs of peanuts, 2 pounds of cashews and 1 pound of walnuts. What percent of the mix is peanuts? What percent is cashews? What percent is walnuts?

### Challenge!

1. Fires travel 20% faster up a hill than on level ground.
- If a fire travels at 25 km/hr on level ground, how fast would it travel up a hill?
  - If a fire travels at 25 km/hr up a hill, how fast would it travel on level ground?