Name: _____

Date: _____

Percents

A percent is a ratio that compares a number (the part) to 100 (the whole).

A percent can be written with a symbol (%), as a fraction, or as a decimal.

For example, **30%** $= 30:100$ (part : whole) $= \dfrac{30}{100} = 0.3$

Use the "%" key on your calculator!

Find "**Part**" → Multiple "×"

Find "**Whole**" → Divide "÷"

Practice:

1. Find 20% of 65

2. Find 140% of 95

3. Find 2.5% of 240

4. What percent is 13 of 65?

5. What percent is 133 of 95?

6. What percent is 6 of 240?

7. 20% of a number is 13. What is the number?

Find "**Part**" → Multiple "×"

Find "**Whole**" → Divide "÷"

8. **140% of what number is 133?**

9. **2.5% of what number is 6?**

Applications of Percent:

10. Rick scored 45 marks out of 60 marks on a test. Express his score as a percent of the total mark.

11. Ms. Chor's favourite store had a 25% off sale. At the sale, she bought a dress with a regular price of $120. What was the sale price of the dress?

12. The diameter of Venus is 12 000 km. This is 10% of the diameter of Saturn. What is the diameter of Saturn?

Answers: 4. 20%; **5.** 140%; **6.** 2.5%; **7.** 65; **8.** 95; **9.** 240; **10.** 75%; **11.** $90; **12.** 120 000 km.

Solving Percent Problems

A percent is a ratio that compares a number (the part) to 100 (the whole).

A percent can be written with a symbol (%), as a fraction, or as a decimal.

For example, **30%** $= 30:100$ (part : whole) $= \dfrac{30}{100} = 0.3$

Use the "%" key on your calculator!

Let's try to solve percent problems with ratios!

1. **An MP3 player that regularly sells for $180 is on sale for 25% off. What is the sale price?**

Selling price is the regular price of an item. It is the **100%** whole, and how much an item is selling for without the discount.

Discount is the portion (or **part**) of the regular selling price that is taken away. This is the part of the whole 100% that you don't have to pay for.

Sale price is the portion (or **part**) of the regular selling price that you have to pay after the discount has been taken off. This is the part of the whole 100% remaining that you need to pay for.

2. **An MP3 player that regularly sells for $180 is on sale for 25% off. What is the total cost or total price after discount if we have to pay 13% HST?**
   (HST = Harmonized Sales Tax = 13% of how much we pay for an item = 13% of _____.)

3. Emma borrows $1200 for 1 year. The annual interest rate is 6%. How much simple interest does Emma pay?

Principal is the amount of money borrowed or saved that costs or earns interest.

Simple interest is calculated based on the amount or principal of the money borrowed or saved. It is a percent of the principal over the time it is being borrowed or saved.

Annual interest rate is the interest rate paid out on the principal over a period of one year.

Time is an important factor when calculating interest which depends on the length of the period money being borrowed or saved.

---

4. If Emma borrows the money for 6 months instead of 1 year, how much simple interest does Emma pay?

5. Hamil put $550 in a savings account for 9 months. The annual interest rate was 4%. How much money was in the savings account after 9 months if no money had been withdrawn from the account?

Answers: 1. $135, **2.** $152.55, **3.** $72, **4.** $36, **5.** $566.50