



Increasing and decreasing by a given percentage

Mana Maths

Te reo Māori terms



ōrau

percentage

Open in Te Aka

rahinga

quantity

Open in Te Aka

tau ā-ira

decimal

Open in Te Aka

itareti

interest

Open in Te Aka

Foundation

1. Increase 40 by 10%.

2. Increase 60 by 20%.

3. Increase 80 by 5%.

4. Increase 30 by 50%.

5. Increase 120 by 10%.

6. Increase 90 by 25%.

7. Decrease 50 by 10%.

8. Decrease 70 by 20%.

9. Decrease 40 by 25%.

10. Decrease 90 by 50%.

11. Decrease 200 by 10%.

12. Decrease 160 by 25%.

13. A shirt costs 40 dollars. Increase the price by 10%.

14. A bike helmet costs 60 dollars. Decrease the price by 20%.

15. Fill in the blank: increasing 80 by 10% gives \square .

16. Fill in the blank: decreasing 120 by 25% gives \square .

17. Which is greater: increasing 50 by 10% or decreasing 70 by 20%?

18. Explain in one short sentence what "increase by 10%" means.

Proficient

1. Increase 45 by 20%.
2. Increase 72 by 25%.
3. Increase 150 by 12%.
4. Increase 240 by 15%.
5. Increase 64 by 37.5%.
6. Increase 88 by 5%.
7. Decrease 95 by 10%.
8. Decrease 120 by 15%.
9. Decrease 84 by 25%.
10. Decrease 320 by 12.5%.
11. Decrease 240 by 35%.
12. Decrease 55 by 20%.

- 13.** A game costs 80 dollars. It is increased by 15%. What is the new price?
- 14.** A phone case costs 24 dollars. It is discounted by 25%. What is the sale price?
- 15.** Fill in the blank: increasing 200 by 12% gives .
- 16.** Fill in the blank: decreasing 96 by 37.5% gives .
- 17.** Are increasing 80 by 25% and decreasing 120 by $\frac{1}{6}$ equal?
- 18.** Explain in one short sentence how 10% can help you find 15% of a number.

Excellence

- 1.** A student says increasing 80 by 25% gives 85. Are they correct? Explain.
- 2.** A student says decreasing 120 by 15% gives 102. Are they correct? Explain.
- 3.** Increase 250 by 18%.
- 4.** Increase 64 by 12.5%.
- 5.** Increase 180 by 37.5%.
- 6.** Decrease 240 by 17.5%.
- 7.** Decrease 160 by 12.5%.
- 8.** Decrease 320 by 37.5%.
- 9.** A jacket costs 120 dollars and is marked up by 15%. What is the new price?

- 10.** A tablet costs 400 dollars and is discounted by 22%. What is the sale price?
- 11.** A car value of 18,000 dollars falls by 12%. What is the new value?
- 12.** A café increases a 6.40 dollar smoothie by 25%. What is the new price?
- 13.** Fill in the blank: increasing 96 by 12.5% gives .
- 14.** Fill in the blank: decreasing 500 by 18% gives .
- 15.** Which is greater: increasing 160 by 12.5% or decreasing 240 by 25%? Show enough working to justify.
- 16.** Which is smaller: increasing 80 by 35% or decreasing 130 by 10%? Explain.
- 17.** A price is increased by 10% and then decreased by 10%. Does it return to the start? Use 100 as an example.
- 18.** Explain why decreasing by 25% is not the same as multiplying by 0.25.