

Practice Worksheet — Grade 9 Mathematics

Free practice worksheet from Enzyme. Show your work in the space provided. Stuck on any of these? Every Enzyme tutor starts with a free 20-minute call and a free diagnostic set — enzyme.ink/tutors

Area perimeter

1. The perimeter of a rectangle is 54 cm. Its length is 3 cm more than twice its width. What is the width of the rectangle, in centimetres?

Answer: _____ (cm)

Averages

2. What is the median of the set {3, 7, 1, 9, 5}?
- a) 3
 - b) 4
 - c) 7
 - d) 5

Exponent laws

3. A bacterial culture starts with 400 cells and the number of cells doubles every 3 hours. How many cells are in the culture after 12 hours?

Answer: _____

Multi step word problems

4. Naomi's phone starts the day fully charged. It uses three eighths of its charge during the school day, and then a further one quarter of the original charge during the evening. What percentage of the charge is left at the end of the evening?

Answer: _____ (%)

5. A square community garden plot has an area of 156.25 m^2 . A low fence is to be built right around the outside edge of the plot. How many metres of fencing are needed?

Answer: _____ (m)

6. A phone plan costs \$45 per month. Priya signs a 12 month contract and also uses 250 extra minutes over the year, billed at \$0.10 each. What does she pay in total for the year, in dollars?

Answer: _____ (\$)

Powers and exponent laws

7. $3^4 = ?$

Answer: _____

8. $(-2)^3 = ?$

Answer: _____

9. $5^0 = ?$

- a) -1
- b) 0
- c) 1
- d) 5

Probability and overlapping groups

10. Drawing a card from a deck, NOT replacing it, then drawing again. These events are:

- a) dependent
- b) impossible
- c) certain
- d) independent

11. Find the mean of the data set {10, 20, 15, 25}.

Answer: _____

12. Which measure of central tendency is most affected by extreme values (outliers)?

- a) median
- b) mode
- c) range
- d) mean

Solving linear equations13. Simplify: $4x + 3x = ?$

- a) $7x^2$
- b) x
- c) $7x$
- d) $12x$

14. Expand: $2(x - 3) = ?$

- a) $2x - 3$
- b) $2x - 6$
- c) $x - 6$
- d) $2x + 6$

Volume surface area similarity

15. A cylinder has radius 3 cm and height 10 cm. Find its volume (use $\pi \approx 3.14$, round to nearest whole number).

Answer: _____ (cm^3)

16. A cube has side length 4 cm. Find its surface area.

Answer: _____ (cm^2)

Probability basics

17. A spinner has 5 equal sections numbered 1-5. What is the probability (as a percent) of landing on 3?

Answer: _____ (%)

18. Two fair coins are flipped. What is the probability (as a percent) both land on heads?

Answer: _____ (%)

Solving linear equations

19. Solve for x: $3(x + 2) = 15$

Answer: _____

20. Solve for x: $2x - 5 = 3x + 1$

Answer: _____