

FREE SAMPLE: 2 DAYS

MATHIFY KIDS • PRINTABLE WORKBOOK

Grade 8 Math in 30 Days

One page a day of mixed review, about 20 minutes

- 30 days of mixed practice
- 8 tip sheets with worked examples
- Start and finish tests
- Answer key with worked solutions
- Progress chart + certificate

This workbook belongs to: _____

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How to use this workbook

A page for parents and teachers

1. **Take the start test.**
   Before day 1, do the start test. It shows where your child begins. Don't help; it is a snapshot, not a grade.
2. **One page a day.**
   Each day has 8 quick facts, 6 mixed questions and 1 word problem: 10 to 20 minutes, pencil and paper, no calculator.
3. **Stuck? Use the tip sheets.**
   Every question shows a tip number. The tip sheets near the front explain each topic with worked examples and a common mistake.
4. **Check it together.**
   Use the answer key at the back, which shows how to solve every word problem. Rework one mistake together each day.
5. **Finish strong.**
   After day 30, take the finish test. Write both scores on the progress chart and see how far your child has come.

What it covers

Exponents	laws of exponents, zero and negative powers (8.EE.1)
Scientific notation	writing and reading large numbers (8.EE.3-4)
Roots	square roots, estimating roots (8.EE.2, 8.NS.2)
Pythagorean theorem	finding missing sides (8.G.7)
Equations	variables on both sides, distributing (8.EE.7)
Functions and slope	slope, intercepts, evaluating functions (8.F.1-4, 8.EE.6)
Systems	solving two equations together (8.EE.8)
Geometry	volume of cylinders, cones and spheres, transformations (8.G.1-3, 8.G.9)

How the 30 days build

Days 1–10	Getting started: exponent laws, squares and roots, slope, cylinders.
Days 11–20	Building up: negative exponents, systems by substitution, cones and spheres.
Days 21–30	Challenge: negative solutions, distributing, systems by elimination.

Days 10, 20 and 30 are review days: a good time to look back at the scores together.

Stuck on a topic?

Every topic has free lessons, games and level quizzes at mathifykids.com, for example mathifykids.com/exponents and mathifykids.com/equations. The free grade 8 check-up at mathifykids.com/math-check-up shows which topics need the most work. Scan the code to start it.

FREE CHECK-UP

TIP SHEET 4

Equations with x on both sides

The big idea

Get all the x terms on one side and all the numbers on the other, then divide. Whatever you do to one side, do to the other.

PRACTICE ONLINE

EXAMPLE Solve $5x - 3 = 2x + 12$

1. Subtract $2x$ from both sides: $3x - 3 = 12$.
2. Add 3 to both sides: $3x = 15$.
3. Divide by 3: $x = 5$. Check: $22 = 22$.

EXAMPLE Solve $2(x + 3) = 4x - 2$

1. Distribute: $2x + 6 = 4x - 2$.
2. Subtract $2x$ and add 2: $8 = 2x$.
3. $x = 4$. Check: $2 \times 7 = 14$ and $4 \times 4 - 2 = 14$.

WATCH OUT

Move the smaller x term so you avoid negatives. If x ends up negative, that's fine: check it in the original equation.

Your turn

1. $6x + 1 = 4x + 9$. $x = ?$ _____
2. $3(x - 2) = x + 4$. $x = ?$ _____
3. $7x - 5 = 2x + 20$. $x = ?$ _____

Work space

Answers: 1. 4 2. 5 3. 5

Day 1

Getting started
Day one. Let's go!

Name _____ Date _____ Score _____ / 15

Warm-up • Facts

TIP 1

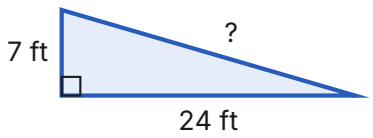
1. 6^2 = _____
2. $\sqrt{16}$ = _____
3. $-11 \times (-10)$ = _____
4. $-7 \times (-5)$ = _____
5. 7^2 = _____
6. $\sqrt{100}$ = _____
7. -4×8 = _____
8. -12×4 = _____

Mixed practice

9. TIP 1

79° = _____

10. Find the missing side of the right triangle. TIP 3



_____ ft

11. $8x + 12 = 5x + 36$ TIP 4

x = _____

12. What is the slope of the line through (0, 0) and (2, −6)? TIP 5

_____

13. $y = -2x + 5$ TIP 5

slope = _____ y-intercept = _____

14. A cylinder has radius 2 cm and height 9 cm. Find its volume. Use $\pi \approx 3.14$. TIP 7

_____ cm^3

Word problem

TIP 8

15. A can is a cylinder with radius 4 cm and height 11 cm. How much does it hold? Use $\pi \approx 3.14$.

Show your work:

Answer _____

RIDDLE OF THE DAY (answer in the key)
I'm thinking of a number. Triple it and add 1. You get 10. What is my number?

Day 2

Getting started
Nice start. Keep it rolling!

Name _____ Date _____ Score _____ / 15

Warm-up • Facts

TIP 1

1. 12^2 = _____
2. $\sqrt{16}$ = _____
3. $-6 \times (-6)$ = _____
4. -8×8 = _____
5. 11^2 = _____
6. $\sqrt{36}$ = _____
7. $-8 \times (-9)$ = _____
8. $-6 \times (-5)$ = _____

Mixed practice

9. TIP 1

30° = _____

10. TIP 3

$\sqrt{169}$ = _____

11. $3x + 10 = 4x + 6$ TIP 4

x = _____

12. $y = 2x + 8$ TIP 5

slope = _____ y-intercept = _____

13. Reflect the point $(-2, -1)$ over the y-axis. What is the new point? TIP 7

_____

14. A cylinder has radius 4 cm and height 3 cm. Find its volume. Use $\pi \approx 3.14$. TIP 7

_____ cm^3

Word problem

TIP 8

15. Plant A is 20 cm tall and grows 2 cm a week. Plant B is 10 cm tall and grows 4 cm a week. After how many weeks are they the same height?

Answer _____

Show your work:

RIDDLE OF THE DAY (answer in the key)
I'm thinking of a number. Double it and add 4. You get 56. What is my number?

Answer key

Days 1–2

Day 1

1.	36	tip 1	6.	10	tip 1	11.	8	tip 4
2.	4	tip 1	7.	−32	tip 1	12.	−3	tip 5
3.	110	tip 1	8.	−48	tip 1	13.	−2, 5	tip 5
4.	35	tip 1	9.	1	tip 1	14.	113.04 cm^3	tip 7
5.	49	tip 1	10.	25 ft	tip 3	15.	552.64 cm^3	tip 8

How to solve 9: so any number except 0 to the power 0 is 1
How to solve 15: 3.14 × 4 × 4 × 11 = 552.64
Riddle: 3

Day 2

1.	144	tip 1	6.	6	tip 1	11.	4	tip 4
2.	4	tip 1	7.	72	tip 1	12.	2, 8	tip 5
3.	36	tip 1	8.	30	tip 1	13.	(2, −1)	tip 7
4.	−64	tip 1	9.	1	tip 1	14.	150.72 cm^3	tip 7
5.	121	tip 1	10.	13	tip 3	15.	5 weeks	tip 8

How to solve 9: so any number except 0 to the power 0 is 1
How to solve 15: the gap is 20 − 10 = 10 cm; B gains 2 cm a week on A: 10 ÷ 2 = 5
Riddle: 26

Enjoyed the sample? Get all 30 days.

The full workbook has 30 daily pages that get harder week by week, 8 tip sheets with worked examples, start and finish tests, a progress chart, a certificate and the full answer key. Print it as many times as you like for your family or class.

mathifykids.com/printable-math-workbooks/