

Grade 7 Math Worksheets: 30 questions across the five Common Core domains, with answers

No calculator except section D. Answers on the last page. Under 20 right tells you which section to work on; the post explains what each section leads to in 8th grade.

A. Integers and rational numbers

1. $-8 + 15 =$ _____
2. $-6 \times (-4) =$ _____
3. $12 - (-5) =$ _____
4. $-45 \div 9 =$ _____
5. $3/4 - (-1/2) =$ _____
6. $-2.5 \times 4 =$ _____

B. Ratios, proportions and percent

7. 3 pens cost \$4.50. What do 8 pens cost? _____
8. Map scale 1 cm : 5 km. 7.5 cm = _____ km
9. 240 miles in 4 hours. Unit rate: _____ mph
10. $x/12 = 5/8$. $x =$ _____
11. 15% of 80 = _____
12. A price rises from \$40 to \$50. Percent increase = _____

C. Expressions and equations

13. Simplify $3(x + 4) - 2x =$ _____
14. Solve $2x + 7 = 19$. $x =$ _____
15. Solve $x/3 - 4 = 2$. $x =$ _____
16. Solve $5 - 2x = 11$. $x =$ _____
17. Solve $3x + 2 > 11$. x _____
18. Evaluate $2a^2 - b$ when $a = 3$, $b = 5$: _____

D. Geometry (use $\pi = 3.14$)

19. Circumference of a circle with radius 7 cm = _____
20. Area of a circle with diameter 10 cm = _____
21. Area of a triangle, base 12 cm, height 5 cm = _____
22. Two angles are supplementary; one is 65° . The other = _____
23. Volume of a 4 cm $\times$ 3 cm $\times$ 5 cm box = _____
24. Scale drawing: 2 cm represents 3 m. A 6 cm wall = _____ m

E. Statistics and probability

25. Mean of 4, 8, 6, 10, 7 = _____
26. Median of 3, 9, 4, 7, 12 = _____
27. P(rolling a 5 on a die) = _____
28. Bag: 3 red, 5 blue. P(red) = _____
29. Two coins: P(both heads) = _____
30. Range of 15, 22, 9, 30 = _____

Answers

A. 1) 7 2) 24 3) 17 4) -5 5) $\frac{5}{4} = 1\frac{1}{4}$ 6) -10

B. 7) \$12.00 (unit price \$1.50) 8) 37.5 km 9) 60 mph 10) 7.5 11) 12 12) 25%

C. 13) $x + 12$ 14) 6 15) 18 16) -3 17) $x > 3$ 18) 13

D. 19) 43.96 cm 20) 78.5 cm^2 21) 30 cm^2 22) 115° 23) 60 cm^3 24) 9 m

E. 25) 7 26) 7 27) $\frac{1}{6}$ 28) $\frac{3}{8}$ 29) $\frac{1}{4}$ 30) 21

What the score means

26 to 30: on track for Pre-Algebra or Algebra 1 in 8th grade. 20 to 25: one section is weak; ten minutes a day on it for a month. Under 20, or a section at 2 or less: that section is the one 8th grade assumes, so this is the term to fix it. Section C (equations) is the one that decides Algebra 1.

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