

2026 UIL ELEMENTARY CALCULATOR CHAMPIONSHIP – GRADE 5 CHAMPIONSHIP

GRADE 5 CHAMPIONSHIP DIVISION • 50 PROBLEMS • 30-MINUTE SPEED SPRINT • SC-6 ELEMENTARY

// OFFICIAL CONTESTANT IDENTIFICATION

CONTESTANT NAME: _____

SCHOOL / CAMPUS: _____

GRADE LEVEL: [] 3 [] 4 [] 5 [] 6

CONTESTANT ID #: _____

OFFICIAL SCORING GRID (GRADER VERIFIED)						
PAGE	P1	P2	P3	P4	P5	TOTAL
Correct (+5):						
Errors (-4):						
Subtotal:						

CONTEST RULES: 30 MINUTES • ALL ANSWERS TO 3 SIGNIFICANT DIGITS UNLESS INTEGER (INT) OR DOLLARS [\$].
SCORING: +5 points per correct response; -4 points per wrong/skipped question up to last attempted. Zero after last attempted.

SECTION 1: DECIMAL OPERATIONS THROUGH THOUSANDTHS

Decimals to Thousandths, Multi-Digit Decimal Products & Rational Expressions

MODE: [123] DECIMALS

- G5-1.

148.452 + 79.835 - 45.120

1 = _____
- G5-2.

24.5 × 6.4

2 = _____
- G5-3.

18.25 × 4.5

3 = _____
- G5-4.

43.2 ÷ 1.8

4 = _____ INT
- G5-5.

86.4 ÷ 2.4

5 = _____ INT
- G5-6.

(24.6 + 15.4) ÷ (8.2 - 3.2)

6 = _____ INT
- G5-7.

32.5 × 14.2 - 185.0

7 = _____
- G5-8.

(14.5 × 8.4) + (12.2 × 6.5)

8 = _____
- G5-9.

A digital precision balance measures 3 3D printed mechanical switch housings weighing 14.85 grams, 23.42 grams, and 18.05 grams. Calculate their combined mass in grams.

9 = _____ g
- G5-10.

A bulk spool contains 125.0 meters of 3D printer PETG filament. A technician cuts 8 test pieces measuring 12.4 meters each. How many meters of filament remain on the spool?

10 = _____ m

SECTION 2: FRACTIONS WITH UNLIKE DENOMINATORS

Unlike Denominators, Mixed Number Regrouping & Step-by-Step [SIMP] Lowest Terms

MODE: [FDISP] FRACTION

- G5-11.

$\frac{2}{3} + \frac{3}{4}$

11 =
- G5-12.

$\frac{3}{8} + \frac{5}{6}$

12 =
- G5-13.

$\frac{5}{6} - \frac{3}{8}$

13 =
- G5-14.

$\frac{7}{10} - \frac{2}{5}$

14 =
- G5-15.

$3\frac{1}{2} + 2\frac{2}{3}$

15 =
- G5-16.

$4\frac{1}{4} - 1\frac{5}{6}$

16 =
- G5-17.

$\frac{1}{2} + \frac{2}{3} + \frac{3}{4}$

17 =
- G5-18.

$\frac{28}{42}$ [SIMP]

18 =
- G5-19.

An electronics conformal coating mixture requires $\frac{2}{3}$ cup of silicone resin and $\frac{3}{4}$ cup of hardener catalyst. What is the total volume of coating mixture in cups?

19 = cups
- G5-20.

A student fabricates an extruded aluminum rail measuring $5\frac{1}{2}$ feet long for a 3D printer frame. He saws off a piece measuring $2\frac{3}{4}$ feet. What is the length of the remaining rail in feet?

20 = ft

SECTION 3: FRACTION MULTIPLICATION & SCALING

MODE: [FDISP] FRACTION

Fraction by Fraction Products, Quantity Fractions & Reciprocal Unit Rates [1/x]

- G5-21. $(\frac{3}{5}) \times (\frac{4}{7})$ 21 = _____
- G5-22. $(\frac{5}{8}) \times (\frac{16}{25})$ 22 = _____
- G5-23. $(\frac{3}{4})$ of 240 23 = _____ INT
- G5-24. $(\frac{2}{5})$ of 185 24 = _____ INT
- G5-25. $6 \div (\frac{1}{4})$ 25 = _____ INT
- G5-26. $(\frac{1}{3}) \div 5$ 26 = _____
- G5-27. $8 \div (\frac{2}{3})$ 27 = _____ INT
- G5-28. $1 / 12.5$ 28 = _____
- G5-29. A 3D printing lab has 18 pounds of PLA pellet stock. If each batch of molded calculator buttons requires $\frac{3}{4}$ pound of pellets, how many batches of buttons can be molded?
29 = _____
- G5-30. An ultrasonic PCB cleaning tank holds 320 gallons of cleaning solution. If $\frac{3}{8}$ of the solution is drained for filtration, how many gallons remain in the tank?
30 = _____ gal

SECTION 4: RECTANGULAR PRISMS & VOLUME LAB

Prism Volume (L x W x H), Total Box Surface Area & Metric Capacity (cm³ to L)

MODE: [123] VOLUME

- G5-31.

18.5 × 12.0 × 6.4

31 =
- G5-32.

24.0 × 15.5 × 8.0

32 =
- G5-33.

14.5 × 10.0 × 4.5

33 =
- G5-34.

Surface Area: 2 × (15×10 + 15×6 + 10×6)

34 =

INT
- G5-35.

Surface Area: 2 × (18.5×12 + 18.5×8 + 12×8)

35 =
- G5-36.

Composite Vol: (12×8×5) + (10×6×4)

36 =

INT
- G5-37.

3500 cm³ ÷ 1000

37 =

L
- G5-38.

14.5 × 8.5 × 12.0 ÷ 2.0

38 =
- G5-39.

A 3D printed desktop electronics housing is 24.0 inches long, 14.5 inches wide, and 12.0 inches high. Calculate the total internal volume of the housing in cubic inches.

39 =

in³
- G5-40.

A modular packaging carton for 48 calculator mechanical key switches has length 18.0 cm, width 12.0 cm, and height 10.0 cm. Calculate the total exterior surface area of the carton in square centimeters.

40 =

cm²

SECTION 5: MULTI-STEP PROPORTIONS & WORD LABS

Recipe Scaling, Speed/Distance/Time Rates & Commercial Invoices

MODE: [123] PROPORTIONS

- G5-41. $(148.5 + 234.5) \div 16.0$ 41 = _____
- G5-42. $(45.0 \times 18.5) - (28.0 \times 14.2)$ 42 = _____
- G5-43. $240 \div 3.5$ 43 = _____
- G5-44. $18.5 \times 4.25 \times 2.40$ 44 = _____
- G5-45. $(84.0 - 18.5) \div 2.5$ 45 = _____
- G5-46. $\$125.00 \times 0.85$ 46 = _____ \$
- G5-47. $(14.5 + 22.5) \times 8.4 \div 2.0$ 47 = _____
- G5-48. $1 \div (1/12.0 + 1/24.0)$ 48 = _____ INT
- G5-49. A battery-powered mobile electronics testing rover travels 210 miles on 7.50 gallons of fuel equivalent. What is the vehicle's fuel efficiency in miles per gallon?
49 = _____ mpg
- G5-50. A school STEM lab orders 45 SC-6 calculators at \$18.50 each and 60 modular snap block cases at \$4.25 each. With a \$50.00 educational rebate coupon applied, what is the net total invoice in dollars?
50 = \$ _____