FIBO · LEARN, PRACTICE & EXPLORE MATH

Unit 10 · Geometry & Trig — Unit Test

16 questions · 16 points · full worked solutions inside

ANSWER KEY — TEACHERS & PARENTS

Name _____ Date _____

Class _____

Directions: This key shows a full worked solution for every question. Final answers are boxed.

1 **A rectangle is 15 ft by 8 ft. Area? (number only)** [1 pt]

Solution.
15 × 8 = 120.

120 ft²

2 **A circle has diameter 10 in. Area? (one decimal)** [1 pt]

Solution.
25π ≈ 78.5.

78.5 in²

3 **A triangle has base 14 m and height 9 m. Area? (number only)** [1 pt]

Solution.
½ × 14 × 9 = 63.

63 m²

4 **A box is 8 in × 3 in × 5 in. Volume? (number only)** [1 pt]

Solution.
8 × 3 × 5 = 120.

120 in³

5 **Legs 6 and 8 — hypotenuse? (number only)** [1 pt]

Solution.
c = √100 = 10.

10

6 **Hypotenuse 13, one leg 5 — the other leg? (number only)** [1 pt]

Solution.
√144 = 12.

12

7 **A 6 ft by 8 ft rectangle — diagonal? (number only)** [1 pt]

Solution.
√(36 + 64) = 10.

10 ft

8 **A triangle has sides 9, 12, 15. Is it a right triangle?** [1 pt]

Solution.
81 + 144 = 225 = 15².

yes

9 **cos θ with adjacent = 9 and hypotenuse = 15? (decimal or fraction, e.g. 0.6)** [1 pt]

Solution.
9/15 = 3/5 = 0.6.

0.6

10 **sin 30° = ? (decimal or fraction)** [1 pt]

Solution.
sin 30° = 1/2.

0.5

11 **A 40 ft ladder makes a 30° angle with the ground. How high up the wall does it reach? (number only)** [1 pt]

Solution.
40 × 0.5 = 20.

20 ft

12 **sin θ = opposite/hypotenuse. If opposite = 5 and sin θ = 0.5, the hypotenuse is…** [1 pt]

Solution.
hyp = 5/0.5 = 10.

10

13 **Volume of a cylinder with r = 4 in and h = 10 in? (one decimal)** [1 pt]

Solution.
160π ≈ 502.7.

502.7 in³

14 **Surface area of a box 9 in × 2 in × 3 in? (number only)** [1 pt]

Solution.
2(18 + 27 + 6) = 102.

102 in²

15 **Volume of a sphere with r = 6 in? (one decimal)** [1 pt]

Solution.
288π ≈ 904.8.

904.8 in³

16 **A cone has r = 5 in and h = 12 in. Volume? (one decimal)** [1 pt]

Solution.
100π ≈ 314.2.

314.2 in³

Grade chart

Grade	Percent	Points (of 16)
A	90–100%	14.5–16 pts
B	80–89%	13–14 pts
C	70–79%	11.5–12.5 pts
D	60–69%	10–11 pts
F	Below 60%	below 10 pts