TRIG CHAPTER 5 GIFT 3

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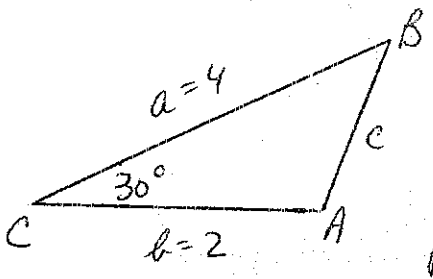
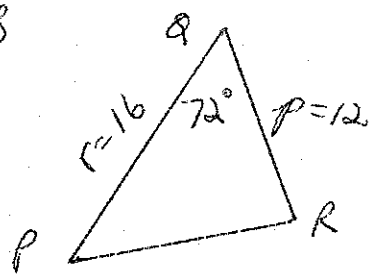
Find all lengths exactly, if possible, and also rounded to 4 decimal places. Find all angles to the nearest minute. Show ALL work on YOUR paper. Store all intermediate results in your calculator and only round final answers. Make a sketch for EACH.

1 - 6. Find the required part of the triangle:

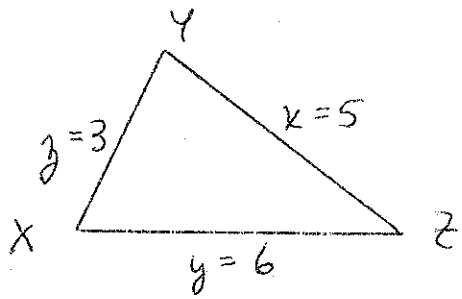
1. Find c.



2. Find $\dot{q}$.



3. Find $\angle Y$



4. In ΔJKM m = 6, j = 8, k = 5, find $\angle K$

5. In ΔDEF d = 6, e = 8, $\angle F = 53°$, find $\angle D$

6. In ΔPQR p = 8 r = 7, $\angle Q = 10°$, find $\angle P$

7. **Solve ΔABC:** a = 7, b = 8, c = 9

8. **Solve ΔXYZ:** $\angle Y = 47°$, x = 12, z = 10

9. **On its *own* separate paper:**
   a) Sketch ΔABC: a = 4", b = 2", c = 3"
   b) Solve ΔABC
   c) Using the results from part b, accurately draw ΔABC with a ruler and protractor and label the lengths of the sides and measures of the angles.

10 - 12. Make a sketch for each triangle and find its height and area to 4 decimal places:

10. ΔXYZ $\angle Z = 60°$, x = 15, y = 6

11. ΔPQR $\angle Q = 160°$, p = 20, r = 15

12. ΔABC $\angle C = 25°$, a = 5.6, b = 17.8

13 - 16. Find the indicated missing part of the triangle:

13. ΔABC $\angle A = 60°$, $\angle B = 45°$, a = 6, b = 15. ΔXYZ x = 11, y = 6, $\angle X = 100°$, $\angle Y =$

14. ΔPQR $\angle R = 130°$, p = 8, r = 16, $\angle P = 16$. ΔDEF $\angle D = 50°$, $\angle E = 75°$, e = 12.8, f =

17. **Solve the triangle**: ΔPQR $\angle P = 24°10'$, $\angle Q = 61°20'$, q = 8.57

TRIG CHAPTER 5 GIFT 4

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1 - 15. Using Hero's Formula, compute the area of each triangle given the lengths of the three sides of the triangle, if possible.

A) First find EXACT answers withOUT the use of a calculator. All radicals must be in simplest form.

B) Second approximate your answer to 4 decimal places using a calculator.

1. 8, 15, 17
2. 12, 13, 5
3. 4, 6, 6
4. 6, 10, 12
5. 5, 7, 9
6. 12, 15, 18
7. 4, 6, 12
8. 1, 2, 3
9. $5\sqrt{2}$, $6\sqrt{2}$, $7\sqrt{2}$
10. $7\sqrt{3}$, $6\sqrt{3}$, $3\sqrt{3}$
11. 2, 3, 4
12. 5, 7, 10
13. 6, 10, 8
14. 6, 4, 8
15. 25, 24, 7

16 - 25. Find all triangles meeting the specifications given. If two triangles are possible, find both. If no triangle is possible, explain why.

Find all sides to 4 decimal places and all angles to the nearest minute.

16.	ΔXYZ	$x = 14$	$y = 18$	$\angle X$ ' 38°10'
17.	ΔPQR	$r = 10$	$q = 5$	$\angle Q = 87°$
18.	ΔABC	$b = 7$	$c = 9$	$\angle B = 35°$
19.	ΔDEF	$e = 27$	$f = 24$	$\angle F = 101°$
20.	ΔGHI	$g = 15$	$h = 13$	$\angle G = 87°$
21.	ΔMNP	$p = 8.94$	$n = 25.1$	$\angle P = 55°40'$
22.	ΔQRS	$q = 22.8$	$r = 24.9$	$\angle Q$ 55°20'
23.	ΔXYZ	$x = 39.6$	$y = 28.4$	$\angle Y = 29°40'$
24.	ΔABC	$a = 859$	$b = 783$	$\angle B = 74°20'$
25.	ΔDEF	$d = 32.5$	$f = 59.8$	$\angle F = 52°20'$