This file contains;

1. This slide
2. One slide of questions based on using Pythagoras
3. One slide of questions based on using standard trigonometry
4. One slide of questions based on using the cosine rule
5. One slide of questions based on using the sine rule
6. One slide of questions based on using the sine rule for area
7. One slide containing answers

Slides aren't titled to make students think further.

Is this triangle drawn accurately?

10 cm

28 cm

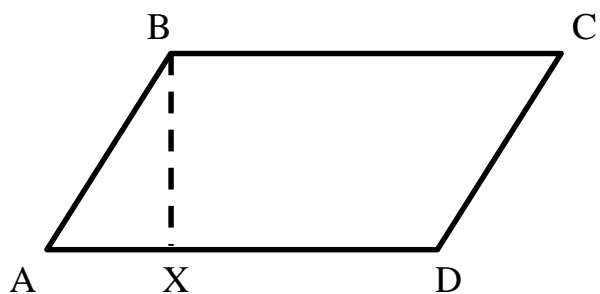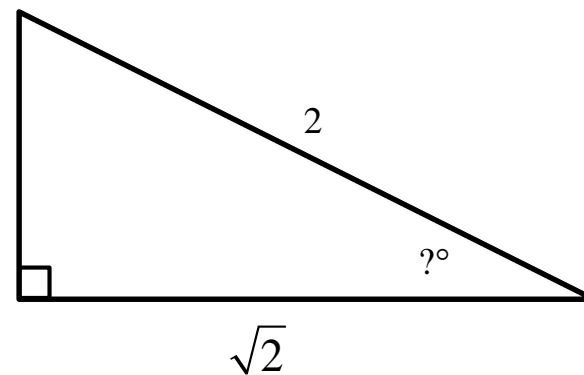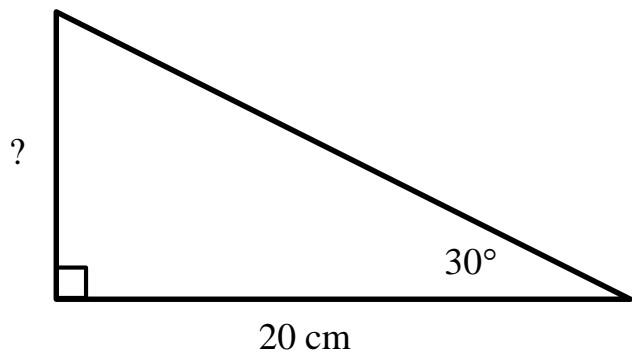24 cm

23 cm

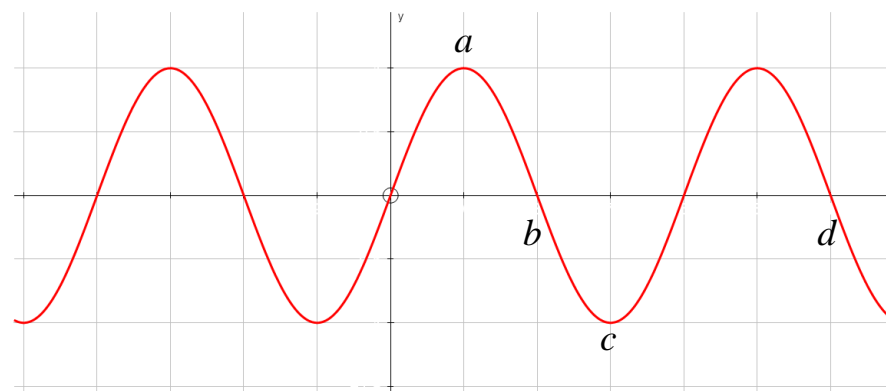?

44 cm

66 cm

10 cm

Height = ?

15 cm
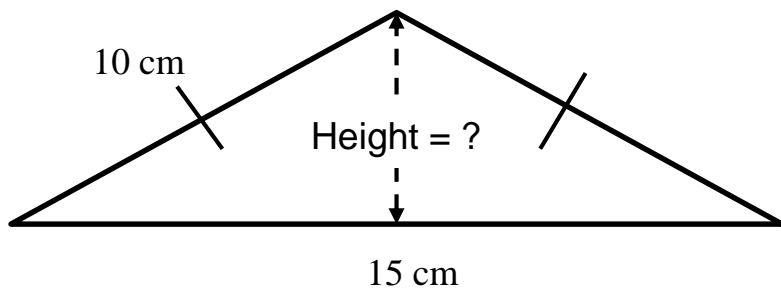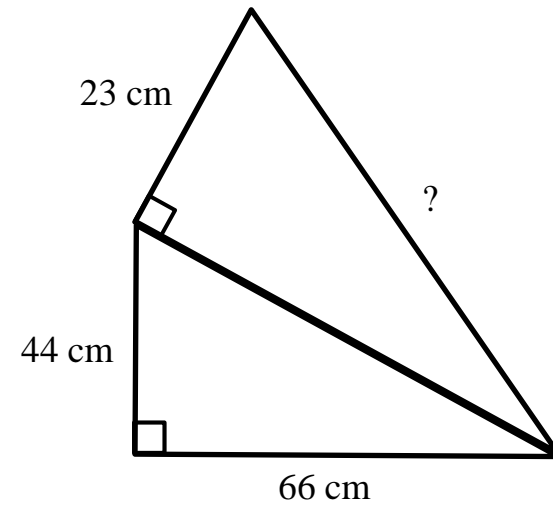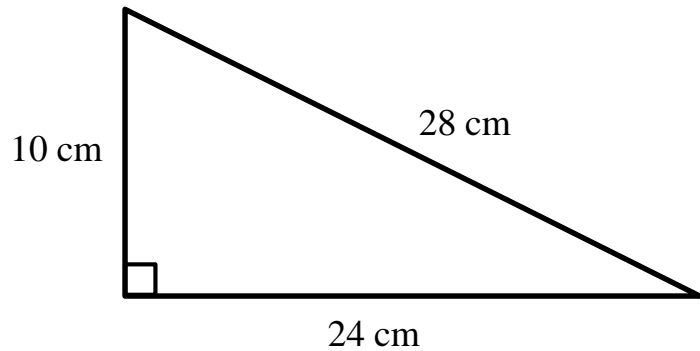
* not a right-angled triangle

What is the maximum length umbrella that can fit into a suitcase of these dimensions?

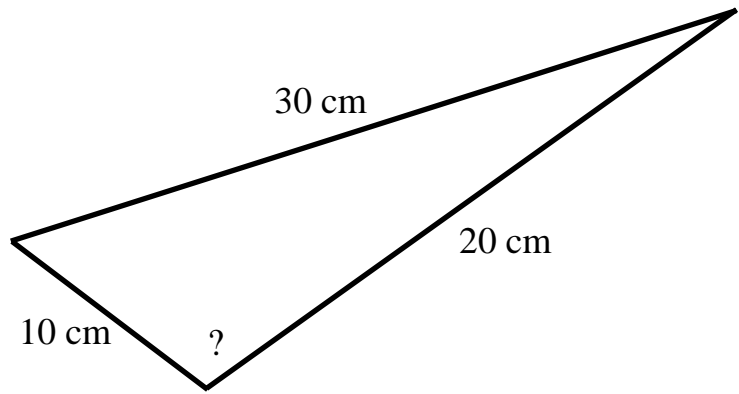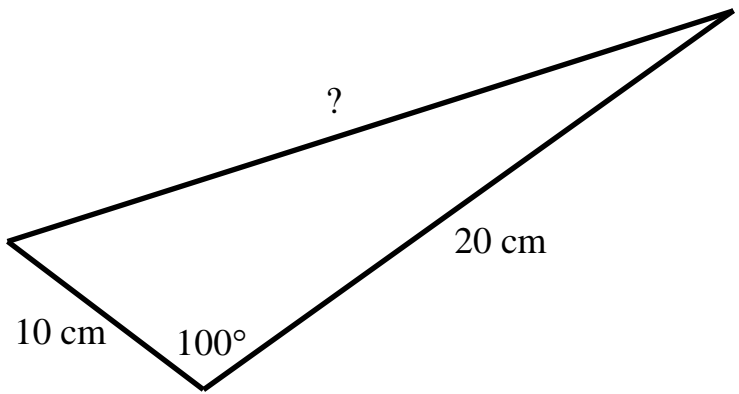$66 \text{ cm} \times 44 \text{ cm} \times 23 \text{ cm}$

**Top-left panel:**

?

30°

20 cm

**Top-right panel:**

2

?°

√2

**Bottom-left panel:**

B     C

A     X     D

ABCD is a parallelogram.

AX = 4 cm  BC = 8 cm  ∠BAD = 48°

Calculate the length of the longer diagonal.

**Bottom-right panel:**

The graph of y = sin$x$ is shown below.

What are the coordinates of $a$, $b$, $c$ and $d$?

$a$

$b$          $d$

$c$

**Top-left card:**

? 

20 cm

10 cm  100°

**Top-right card:**

30 cm

20 cm

10 cm  ?

Drawn accurately?

**Bottom-left card:**

?

70°

20 cm

10 cm

**Bottom-right card:**
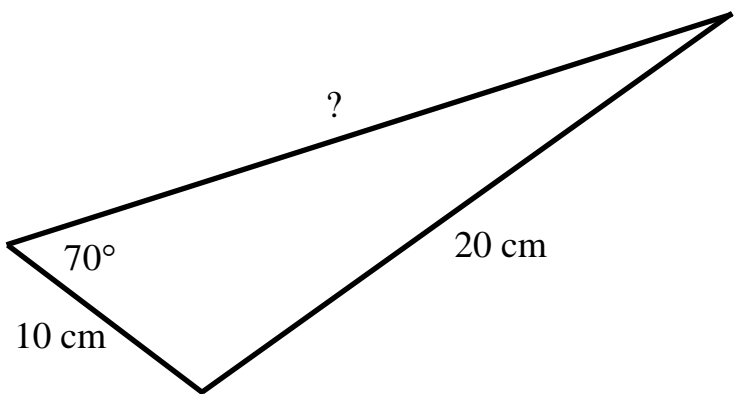
In the triangle PQR,
PQ = 4 cm  QR = 5 cm ∠PQR = 225°

Calculate the length of PR.

**Top-left triangle:**

10 cm

75°

30°

?

**Top-right triangle:**

10 cm

?

20 cm

30°

**Bottom-left triangle:**

10 cm

60°

?

20°

**Bottom-right triangle:**

10 cm

?

15 cm

20°

**Top left:**

20 cm

Area = $75\sqrt{3}$

?

15 cm

**Top right:**

20 cm

Area = ?

75°

15 cm

**Bottom left:**

25 cm

?

Area = 200 cm²

20 cm
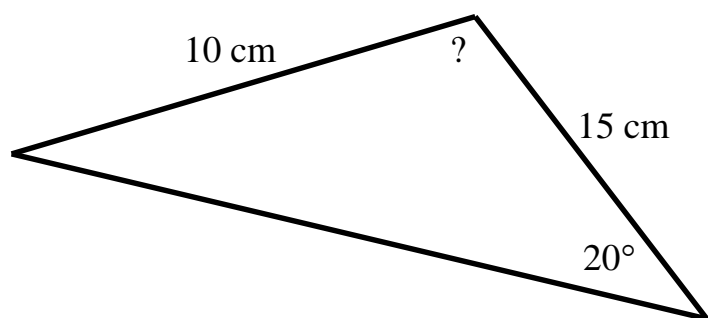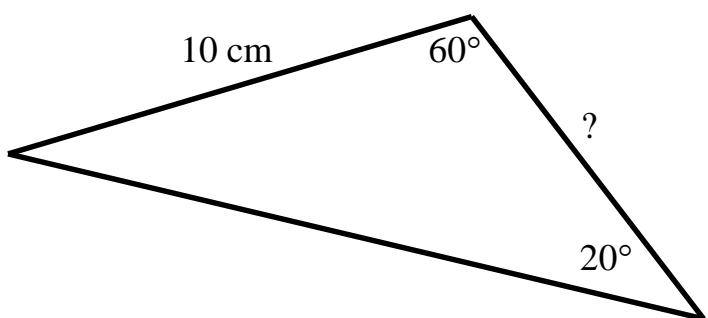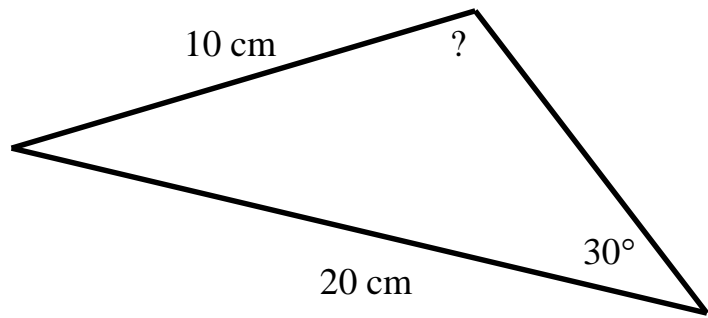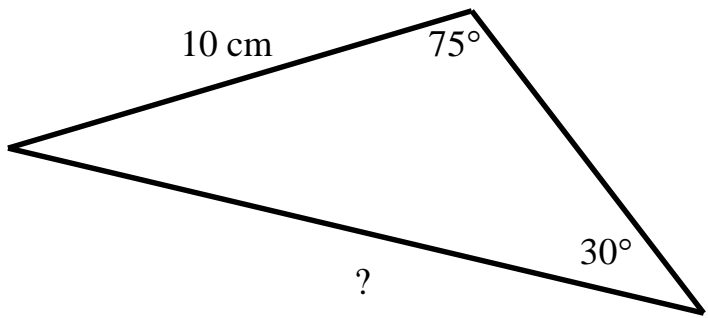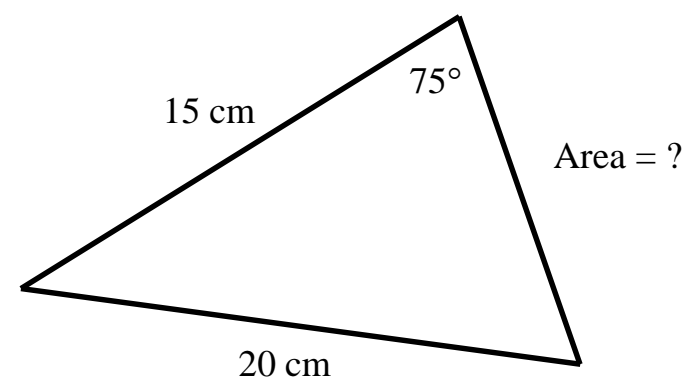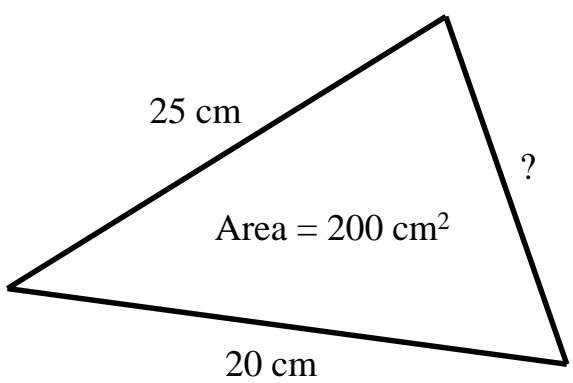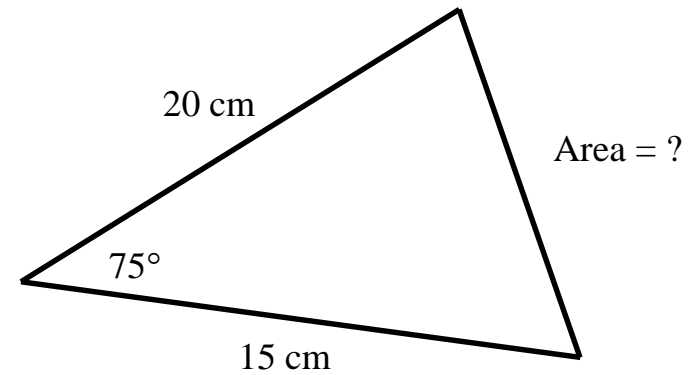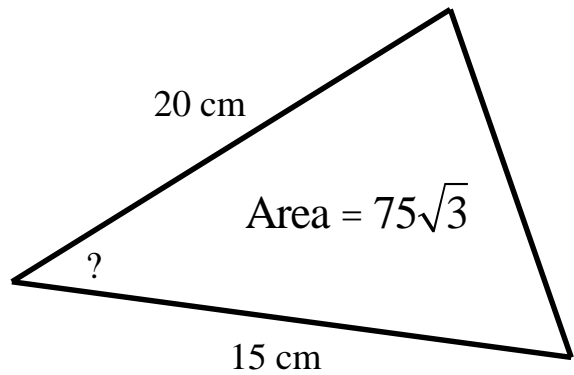
Give both possible answers

**Bottom right:**

75°

15 cm

Area = ?

20 cm

# Answers

## Pythagoras (the one with the suitcase)

1. No, $10^2 + 24^2 \neq 28^2$ ∴ non RA.
2. 82.59 cm
3. $(5\sqrt{7})/2 \approx 6.61$
4. 82.59 cm (same answer as question 2)

## Standard Trig (the one with the sin graph)

1. $(20\sqrt{3})/3 \approx 11.55$
2. 45°
3. 12.27 cm
4. (90, 1), (180,0), (270,-1), (540,0)

## Cosine Rule (one with the worded question)

1. 23.86 cm
2. 180° ∴ not a triangle (check the lengths)
3. 21.07 cm
4. $(41+20\sqrt{2})^{\frac{1}{2}} \approx 8.32$ cm

## Sine Rule

1. $5\sqrt{6}+5\sqrt{2} \approx 19.31$ cm
2. 90°
3. 19.69 cm
4. 129.13°

## Sine Rule for Area (one about areas)

1. 60°
2. $(75\sqrt{6}+75\sqrt{2})/2 \approx 144.89$ cm$^2$
3. 20.615 cm and 40.31 cm
4. 128 cm$^2$