



# SUMMIT EDUCATION

**Mathematics**

**Worksheet**

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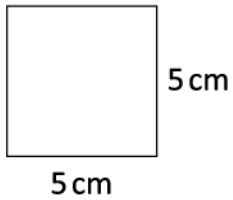
# Maths-Year6-3

**Q1**



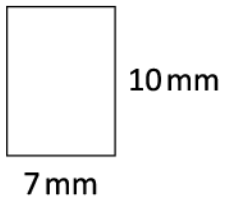
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18

**Q2**



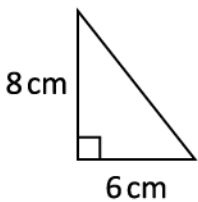
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**Q3**



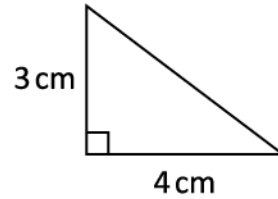
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**Q4**



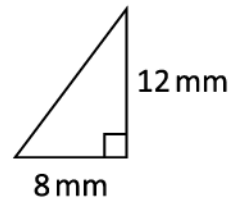
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**Q5**



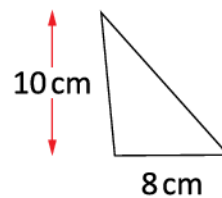
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**Q6**



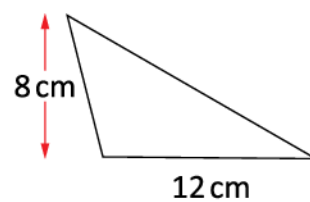
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**Q7**



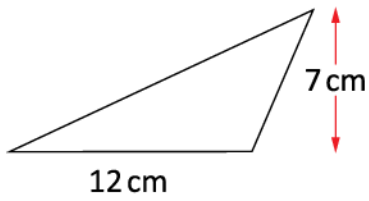
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**Q8**



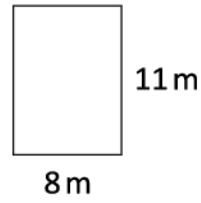
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**Q9**



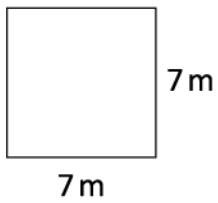
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**Q13**



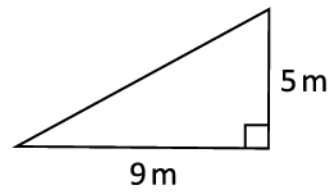
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**Q10**



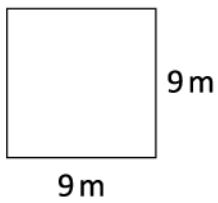
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**Q14**



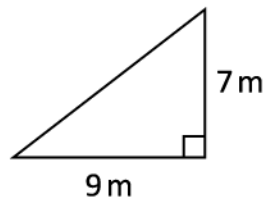
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**Q11**



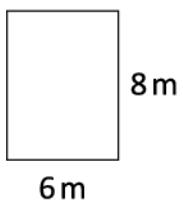
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**Q15**



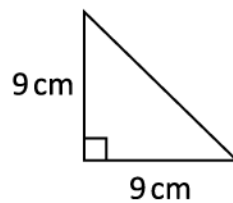
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31.5

**Q12**



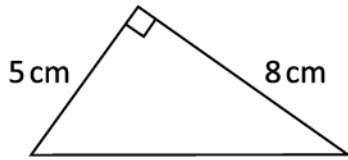
Area =  m<sup>2</sup>  
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**Q16**



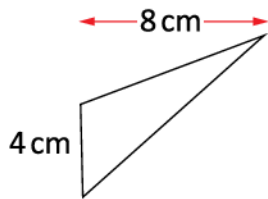
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40.5

**Q17**



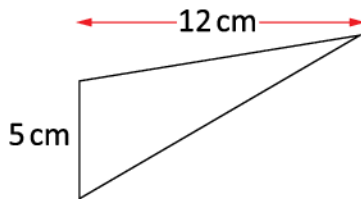
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**Q18**



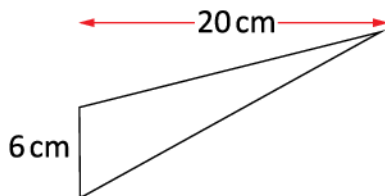
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**Q19**



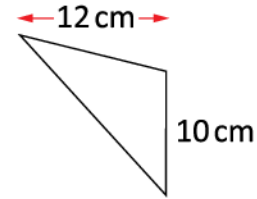
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**Q20**



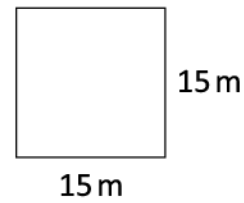
Area =  cm<sup>2</sup>  
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**Q21**



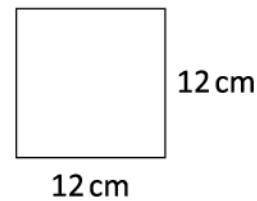
Area =  cm<sup>2</sup>  
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**Q22**



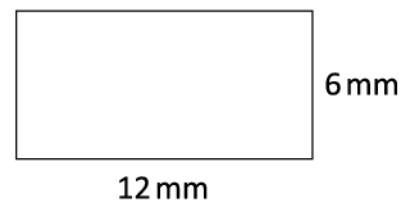
Area =  m<sup>2</sup>  
225

**Q23**



Area =  cm<sup>2</sup>  
144

**Q24**



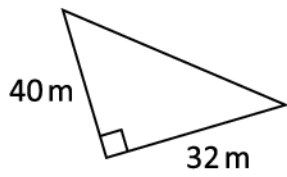
Area =  mm<sup>2</sup>  
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**Q25**



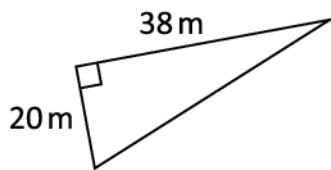
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**Q26**



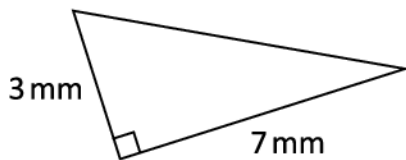
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**Q27**



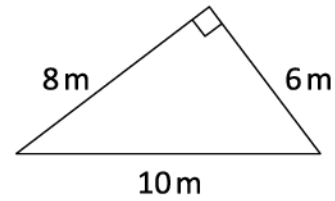
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**Q28**



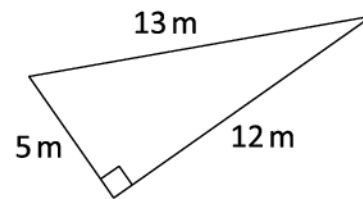
Area =  mm<sup>2</sup>  
10.5

**Q29**



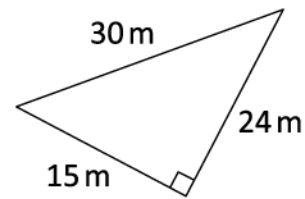
Area =  m<sup>2</sup>  
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**Q30**



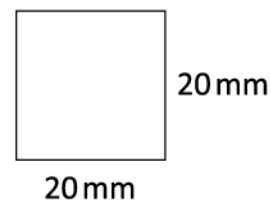
Area =  m<sup>2</sup>  
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**Q31**



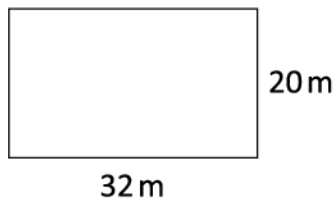
Area =  m<sup>2</sup>  
180

**Q32**



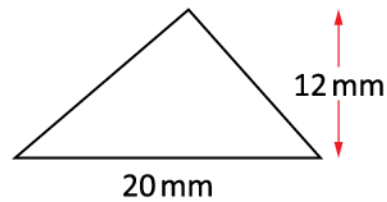
Area =  mm<sup>2</sup>  
400

**Q33**



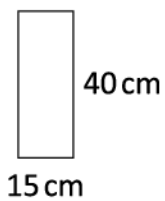
Area =  m<sup>2</sup>  
640

**Q37**



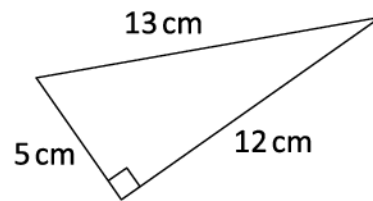
Area =  mm<sup>2</sup>  
120

**Q34**



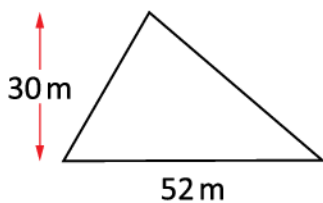
Area =  cm<sup>2</sup>  
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**Q38**



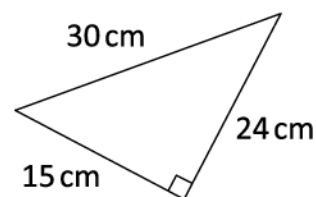
Area =  cm<sup>2</sup>  
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**Q35**



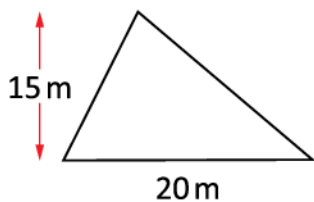
Area =  m<sup>2</sup>  
780

**Q39**



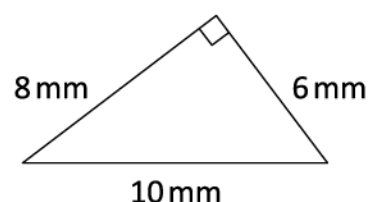
Area =  cm<sup>2</sup>  
180

**Q36**



Area =  m<sup>2</sup>  
150

**Q40**



Area =  mm<sup>2</sup>  
24

# y6math3 Hard Answers

## Answer Key

### Question 1:

A rectangular garden has a length of 12 m and a width of 8 m. What is its area? If a path of width 1 m is added around the outside, what is the new total area including the path?

**Answer: Area =  $12 \times 8 = 96 \text{ m}^2$ . With path:  $(12+2) \times (8+2) = 14 \times 10 = 140 \text{ m}^2$ .**

### Question 2:

A triangle has a base of 15 cm and a height of 10 cm. Calculate its area. If the base is doubled and the height is halved, what is the new area?

**Answer: Area =  $0.5 \times 15 \times 10 = 75 \text{ cm}^2$ . New:  $0.5 \times 30 \times 5 = 75 \text{ cm}^2$  (same area).**

### Question 3:

A square has an area of  $64 \text{ cm}^2$ . What is its side length? If each side is increased by 3 cm, what is the new area?

**Answer: Side =  $\sqrt{64} = 8 \text{ cm}$ . New side = 11 cm. New area =  $121 \text{ cm}^2$ .**

### Question 4:

A rectangular field is 45 m long and 30 m wide. A 5 m wide path runs around the inside edge of the field. What area of the field is NOT part of the path?

**Answer: Field area =  $45 \times 30 = 1350 \text{ m}^2$ . Inner area =  $(45-10) \times (30-10) = 35 \times 20 = 700 \text{ m}^2$ . Non-path =  $700 \text{ m}^2$ .**

### Question 5:

A rectangle has an area of  $96 \text{ cm}^2$  and a width of 8 cm. What is its length? If both dimensions are multiplied by 1.5, what is the new area?

**Answer: Length =  $96 / 8 = 12 \text{ cm}$ . New dimensions:  $12 \times 1.5 = 18$ ,  $8 \times 1.5 = 12$ . New area =  $18 \times 12 = 216 \text{ cm}^2$ .**

### Question 6:

A composite shape is made by joining a 6 cm  $\times$  6 cm square to a rectangle of width 6 cm and length 10 cm. What is the total area?

**Answer: Square:  $6 \times 6 = 36 \text{ cm}^2$ . Rectangle:  $6 \times 10 = 60 \text{ cm}^2$ . Total =  $36 + 60 = 96 \text{ cm}^2$ .**

### Question 7:

A parallelogram has a base of 12 cm and a height of 7 cm. What is its area? If a triangle cut from one end reduces the area by  $21 \text{ cm}^2$ , what remains?

**Answer: Area =  $12 \times 7 = 84 \text{ cm}^2$ . Remaining =  $84 - 21 = 63 \text{ cm}^2$ .**

### Question 8:

A rectangular prism has a base area of  $24 \text{ cm}^2$  and a height of 10 cm. What is its volume? If the height is increased by 25%, what is the new volume?

**Answer: Volume =  $24 \times 10 = 240 \text{ cm}^3$ . New height = 12.5 cm. New volume =  $24 \times 12.5 = 300 \text{ cm}^3$ .**

**Question 9:**

A circle has a radius of 7 m. Use 3.14 as pi. Calculate its area. If the radius is doubled, how many times larger is the new area?

**Answer: Area =  $\pi \times 7^2 = 3.14 \times 49 = 153.86 \text{ m}^2$ . Radius doubled = 14 m. New area =  $3.14 \times 196 = 615.44 \text{ m}^2$ . Area is 4 times larger.**

**Question 10:**

A trapezium has parallel sides of 10 cm and 6 cm, and a height of 5 cm. What is its area? If both parallel sides are increased by 2 cm, what is the new area?

**Answer: Area =  $0.5 \times (10+6) \times 5 = 0.5 \times 16 \times 5 = 40 \text{ cm}^2$ . New:  $0.5 \times (12+8) \times 5 = 0.5 \times 20 \times 5 = 50 \text{ cm}^2$ .**

**Question 11:**

A rectangular wall is 3.6 m high and 5.4 m wide. One litre of paint covers  $4.5 \text{ m}^2$ . How many litres are needed to paint the wall? If paint costs \$12 per litre, what is the total cost?

**Answer: Area =  $3.6 \times 5.4 = 19.44 \text{ m}^2$ . Litres needed =  $19.44 / 4.5 = 4.32$ , so 5 litres. Cost =  $5 \times \$12 = \$60$ .**

**Question 12:**

A cube has a surface area of  $150 \text{ cm}^2$ . What is the length of one side? If the cube is cut into 8 smaller cubes of equal size, what is the surface area of one small cube?

**Answer: Side =  $\sqrt{150/6} = \sqrt{25} = 5 \text{ cm}$ . Small cube side = 2.5 cm. Small cube surface area =  $6 \times 2.5^2 = 6 \times 6.25 = 37.5 \text{ cm}^2$ .**

**Question 13:**

A rectangular garden bed is 4 m by 3 m. A 0.5 m wide border of flowers is planted around the outside. What is the area of the flower border?

**Answer: Garden area =  $4 \times 3 = 12 \text{ m}^2$ . With border:  $(4+1) \times (3+1) = 5 \times 4 = 20 \text{ m}^2$ . Border area =  $20 - 12 = 8 \text{ m}^2$ .**

**Question 14:**

A shape consists of a rectangle 8 cm  $\times$  5 cm with a 3 cm  $\times$  3 cm square cut out from one corner. What is the remaining area? If the square cut-out is doubled in size, what is the new remaining area?

**Answer: Original =  $8 \times 5 = 40 \text{ cm}^2$ . Cut-out =  $3 \times 3 = 9 \text{ cm}^2$ . Remaining =  $40 - 9 = 31 \text{ cm}^2$ . Double cut-out:  $6 \times 6 = 36$ . Remaining =  $40 - 36 = 4 \text{ cm}^2$ .**

**Question 15:**

A piece of paper is 30 cm long and 20 cm wide. A 4 cm wide strip is cut from all four edges. What is the area of the remaining rectangle? What percentage of the original paper is wasted?

**Answer: Original =  $30 \times 20 = 600 \text{ cm}^2$ . Remaining =  $(30-8) \times (20-8) = 22 \times 12 = 264 \text{ cm}^2$ . Wasted =  $600 - 264 = 336$ . Percentage =  $336/600 \times 100 = 56\%$ .**