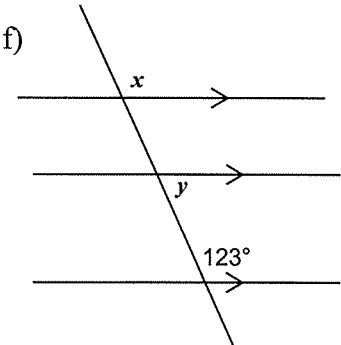
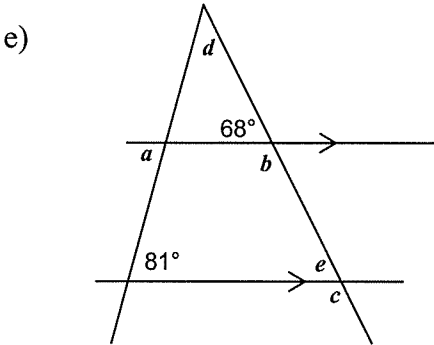
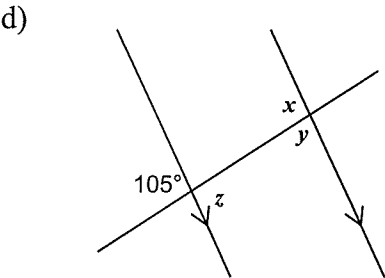
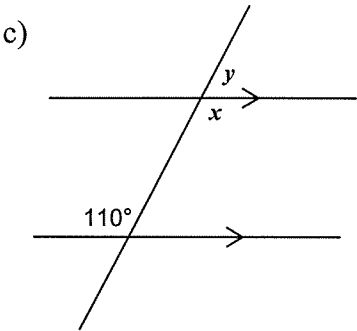
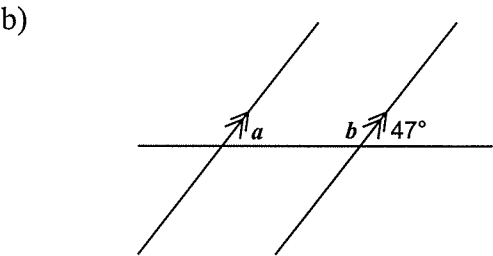
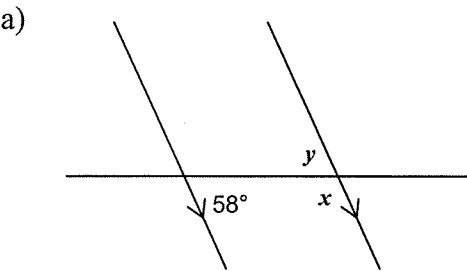
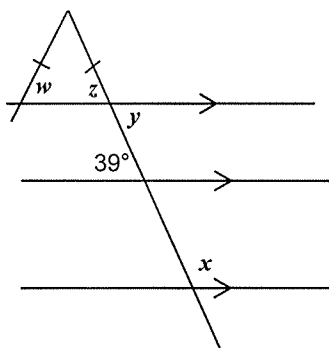


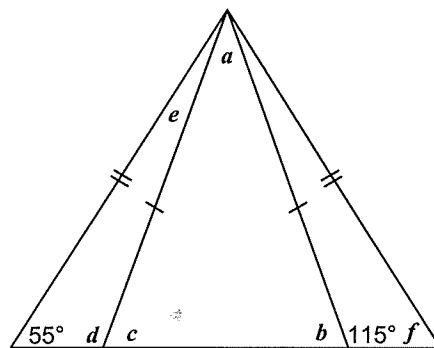
Find the unknown angles indicated and show work (including authorities).



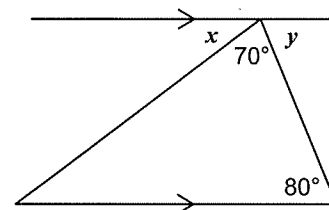
g)



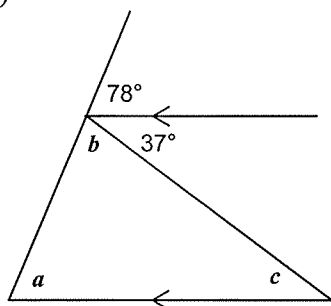
h)



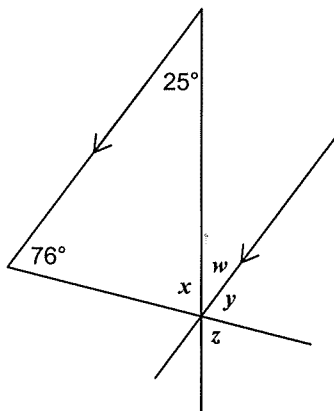
i)



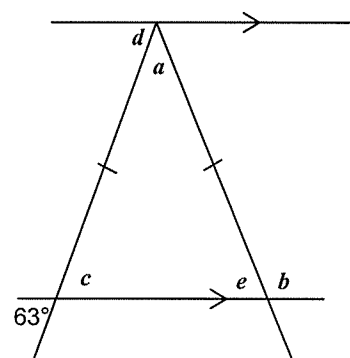
j)



k)



l)



Answers:

a) $x=122^\circ$, $y=58^\circ$

d) $x=105^\circ$, $y=75^\circ$, $z=105^\circ$

g) $w=y=z=39^\circ$, $x=141^\circ$

j) $a=78^\circ$, $b=65^\circ$, $c=37^\circ$

b) $a=47^\circ$, $b=133^\circ$

e) $a=81^\circ$, $b=c=112^\circ$, $d=31^\circ$, $e=68^\circ$

h) $a=50^\circ$, $b=c=65^\circ$, $d=115^\circ$, $e=10^\circ$, $f=55^\circ$

k) $w=25^\circ$, $x=z=79^\circ$, $y=76^\circ$

c) $x=110^\circ$, $y=70^\circ$

f) $x=123^\circ$, $y=57^\circ$

i) $x=30^\circ$, $y=80^\circ$

l) $a=54^\circ$, $b=117^\circ$, $c=d=e=63^\circ$

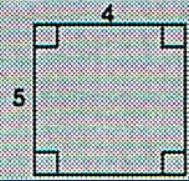
More Practice with Perimeter



Keep in mind...

If you work hard, then you begin to appreciate hard work.

Perimeter



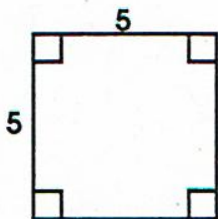
The perimeter of a figure is the distance around the outside.

$P = 4 + 4 + 5 + 5$

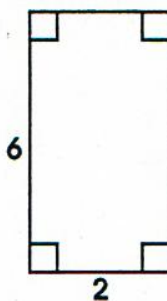
$P = 18$

Find the perimeter.

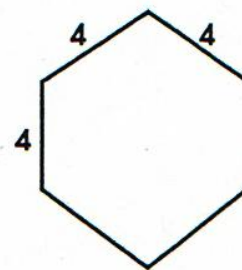
1.



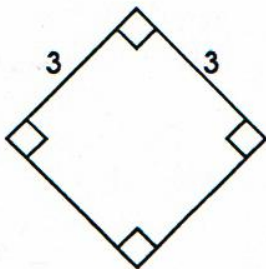
2.



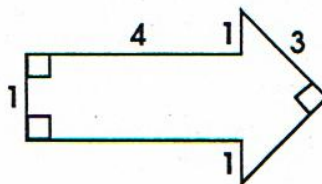
3.



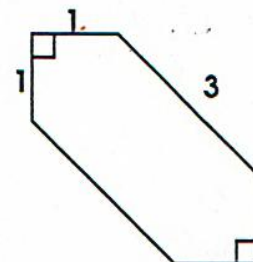
4.



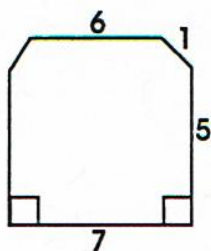
5.



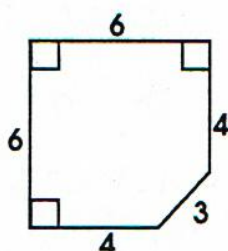
6.



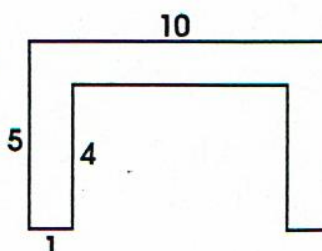
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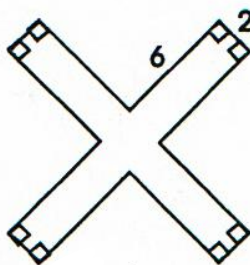
8.



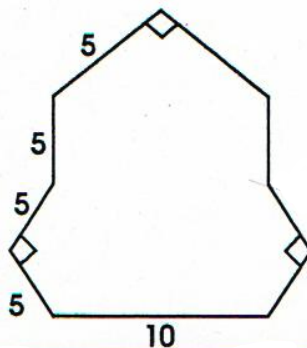
9.



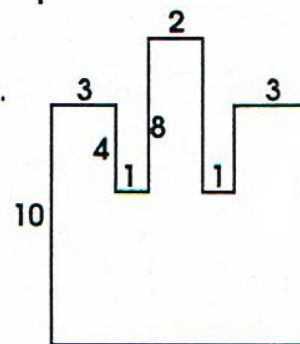
10.



11.



12.

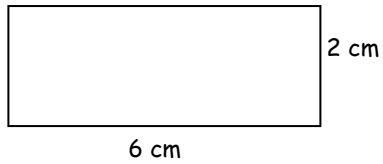


Area

Practice

1. Calculate the perimeter AND area for each shape. Note: drawings are NOT to scale!

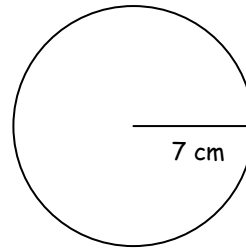
a)



$P =$

$A =$

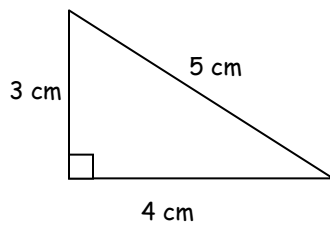
b)



$C =$

$A =$

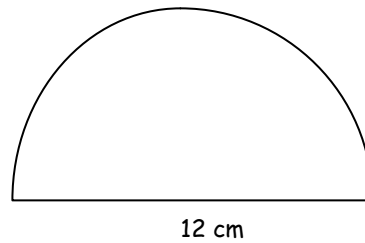
c)



$P =$

$A =$

d)

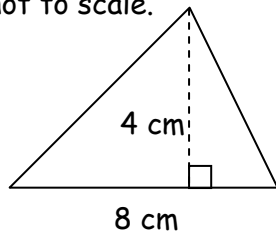


$P =$

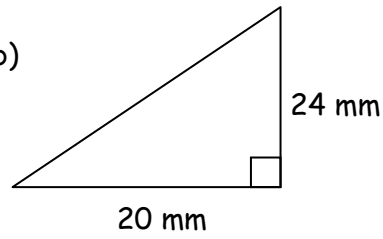
$A =$

2. Calculate the area for each shape, rounding to one decimal place where necessary. Drawings are not to scale.

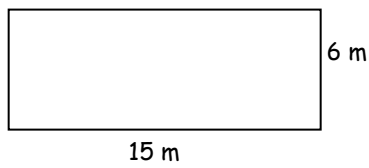
a)



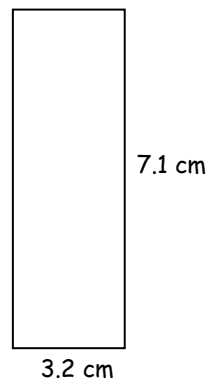
b)



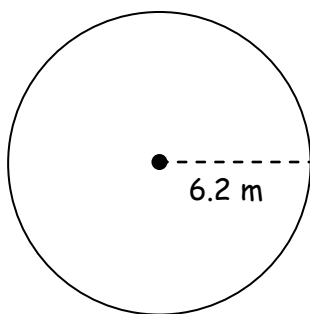
c)



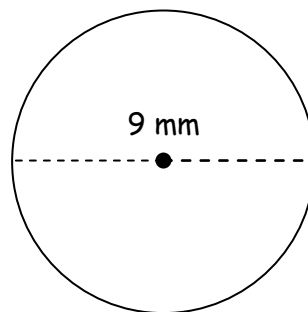
d)



e)



f)



Mathematics 9

Pythagorean Theorem

Date: _____

Calculate the value of $\sqrt{2}$ on your calculator. Compare your answer with the one below.

$\sqrt{2}$ <small>exact answer</small>	$= 1.414213562373095048801688724209...$ <small>approximate answer</small>
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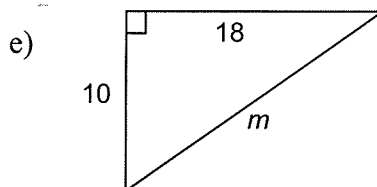
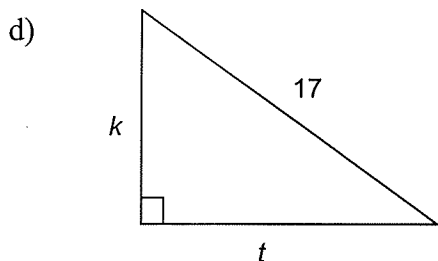
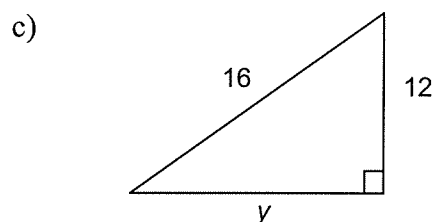
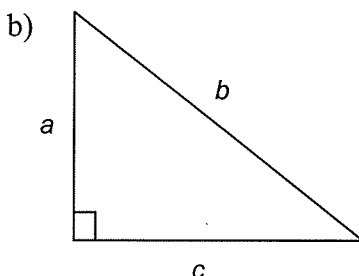
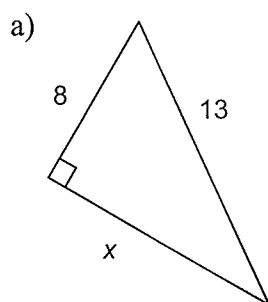
1. Calculate each of the following, accurate to the number of decimal places in the brackets.

- a) $\sqrt{65}$ (2) b) $\sqrt{43}$ (2) c) $\sqrt{359}$ (1) d) $\sqrt{262}$ (1) e) $\sqrt{5.52}$ (2)

2. Estimate *without using a calculator* the approximate value (to 1 decimal place)

- a) $\sqrt{5}$ b) $\sqrt{40}$ c) $\sqrt{70}$ d) $\sqrt{94}$ e) $\sqrt{141}$

3. For each right triangle, write the Pythagorean relationship. DO NOT SOLVE.



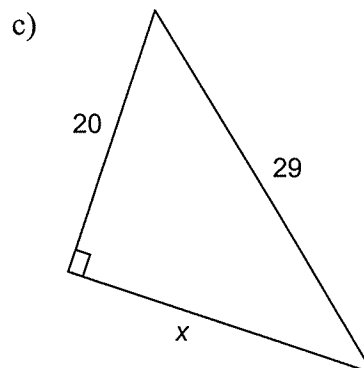
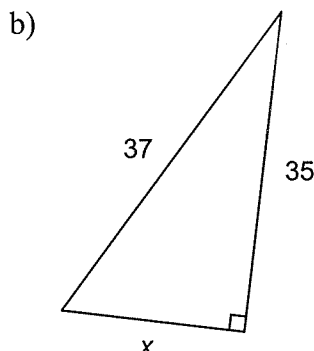
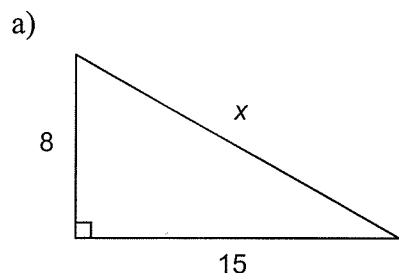
4. In each equation, determine the value of the missing measure. Give *exact* answers.

- a) $a^2 = 8^2 + 5^2$ b) $14^2 = c^2 + 8^2$ c) $g^2 = 7^2 + 10^2$ d) $16^2 = 9^2 + y^2$ e) $13^2 = n^2 + 6^2$

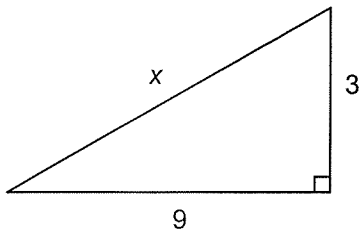
5. Give exact answers, in fraction form.

- a) $\sqrt{\frac{4}{121}}$ b) $\sqrt{\frac{100}{64}}$ c) $\sqrt{\frac{289}{361}}$ d) $\sqrt{\frac{1}{144}}$ e) $\sqrt{\frac{48}{27}}$

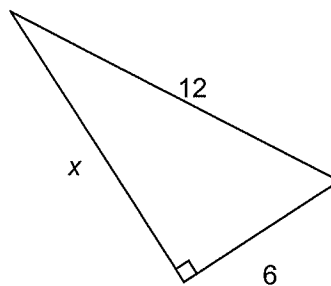
6. Determine the length of the unknown side. Give *exact* answers. Show all steps!



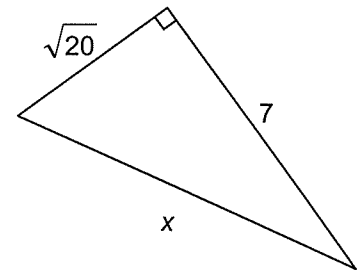
d)



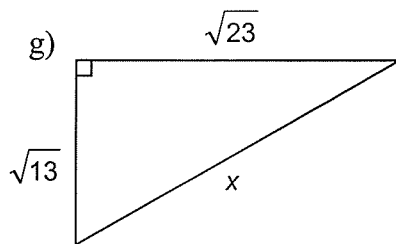
e)



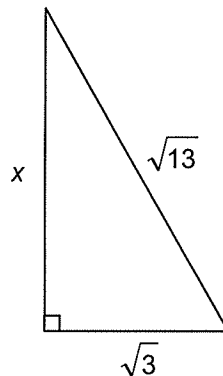
f)



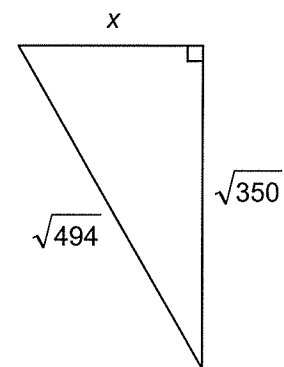
g)



h)



i)



Show work in your notebooks—including a labelled diagram—for the remaining questions.

7. A rectangular park has length 25 m and width 15 m. If a person wishes to walk from one corner to the diagonal opposite corner, how much distance would they save by walking on the diagonal instead of around the outside? Express your answer accurate to the nearest metre.
8. A support cord is attached to a tent and to the ground. If the tent is 1.2 m high and the cord is 2.3 m long, how far is the end of the cord from the tent? Round to 2 decimal places.
9. A shadow is cast by a building. The distance measured from the tip of the shadow to the top of the building is 85 m. The tip of the shadow is 55 m from the base of the building. How tall is the building? Round to 1 decimal place.

Answers:

1 8.06 ; 6.56 ; 18.9 ; 16.2 ; 2.35

2 2.2 ; 6.3 ; 8.4 ; 9.7 ; 11.9

3 $x^2 + 8^2 = 13^2$; $a^2 + c^2 = b^2$; $y^2 + 12^2 = 16^2$; $k^2 + t^2 = 17^2$; $m^2 = 10^2 + 18^2$

4 $\sqrt{89}$; $\sqrt{132}$; $\sqrt{149}$; $\sqrt{175}$; $\sqrt{133}$

5 $\frac{2}{11}$; $\frac{5}{4}$; $\frac{17}{19}$; $\frac{1}{12}$; $\frac{4}{3}$

6 17 ; 12 ; 21 ; $\sqrt{90}$; $\sqrt{108}$; $\sqrt{69}$; 6 ; $\sqrt{10}$; 12

7 11 m

8 1.96 m

9 64.8 m