

FINAL EXAM REVIEW #4



NUMBER THEORY

ALGEBRA

GEOMETRY LINES AND
ANGLES ✓

MEASUREMENT

INTEGERS, POWERS,
AND ROOTS

RATIO, PROPORTION

STATISTICS

PERCENT

COORDINATE
GEOMETRY

PROBABILITY

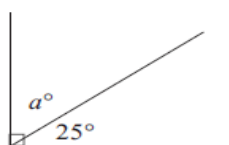
Work through all the questions below and check answers at the end of the worksheet. If you have any question with this section, please ask during the next class time or come to consultation.

GEOMETRY LINES AND ANGLES

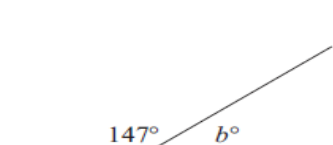
1.

Find the value of the unknown in:

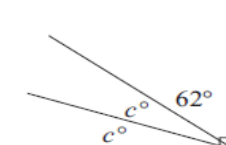
a



b



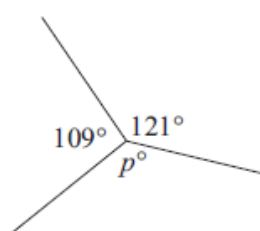
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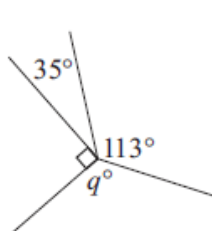
2.

Find the values of the unknowns in:

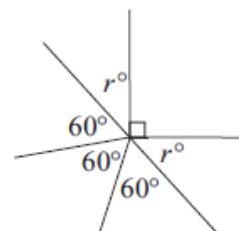
a



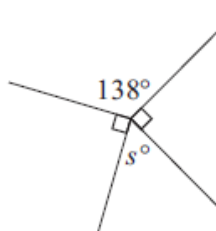
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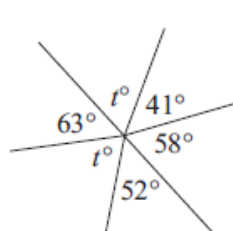
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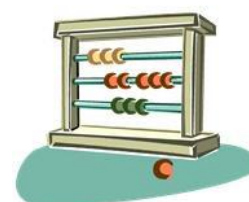
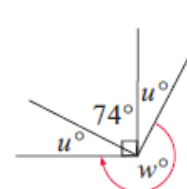
d



e



f

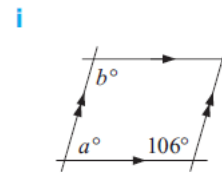
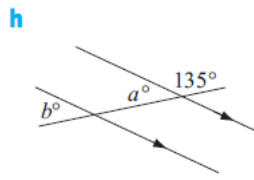
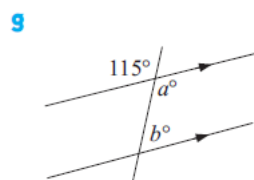
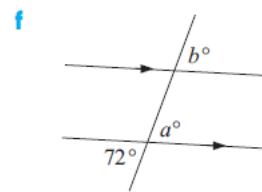
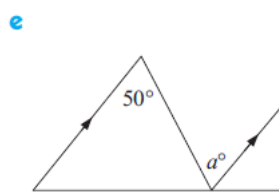
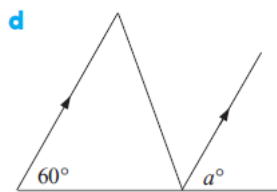


3.

- a Use your protractor to draw accurately \widehat{ABC} of size 50° .
- b Use a compass and ruler only to bisect \widehat{ABC} .
- c Use a protractor to check the accuracy of your construction.

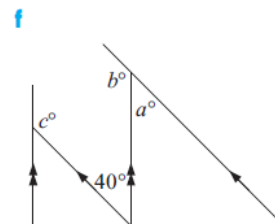
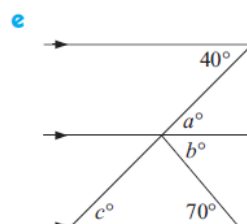
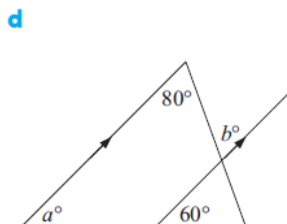
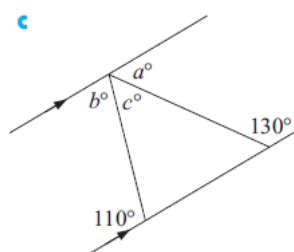
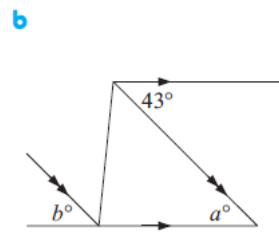
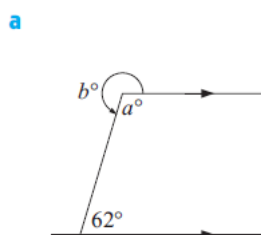
4. Construct a triangle FHG with $FH = 5\text{cm}$, $HG = 7\text{cm}$ and $\angle H = 60^\circ$

5.



6.

Find, giving brief reasons, the values of the unknowns in alphabetical order:



POLYGONS

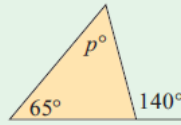
SECTION 1:

2 Find the value of the variable in each figure, giving a brief reason for your answer:

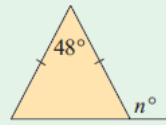
a



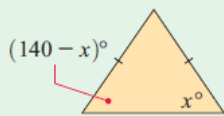
b



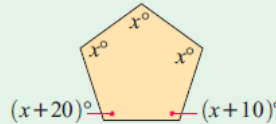
c



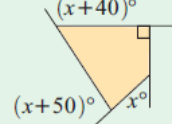
d



e



f

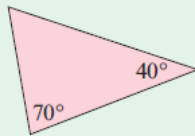


3 State whether the following are true or false:

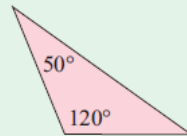
- a The sum of the lengths of two sides of a triangle is always greater than the length of the third side.
- b A square is a parallelogram.
- c The sum of the interior angles of an n -sided polygon is $n \times 180^\circ$.
- d A rhombus is a regular polygon.

4 Classify each triangle, in as much detail as possible:

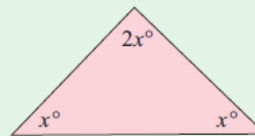
a



b



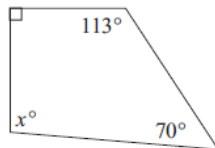
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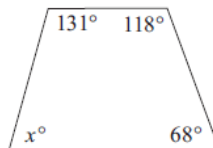
SECTION 2:

2 Find the value of x :

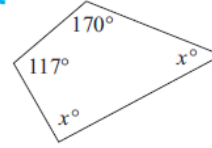
a



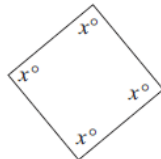
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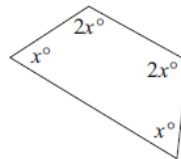
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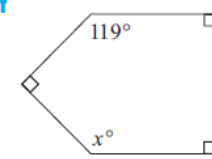
d



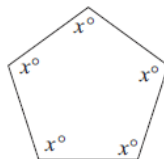
e



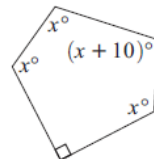
f



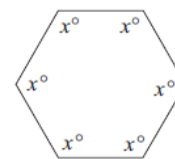
g



h



i



3 The sum of the angles of a polygon is 1980° . How many angles has the polygon?

ANSWERS

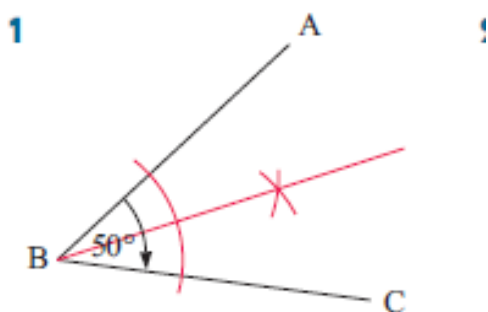
1.

a $a = 65$ **b** $b = 33$ **c** $c = 14$

2.

a $p = 130$ **b** $q = 122$ **c** $r = 45$ **d** $s = 42$
e $t = 73$ **f** $u = 16, w = 254$

3.



4.

c $a = 99$ {co-interior} **d** $a = 60$ {corresponding}
e $a = 50$ {alternate}
f $a = 72$ {vertically opposite}, $b = 72$ {corresponding}
g $a = 115$ {vertically opposite}, $b = 65$ {co-interior}
h $a = 45$ {angles on a line}, $b = 45$ {corresponding}
i $a = 74$ {co-interior}, $b = 106$ {co-interior}

5.

- a** $a = 118$ {co-interior}, $b = 242$ {angles at a point}
- b** $a = 43$ {alternate}, $b = 43$ {corresponding}
- c** $a = 50$ {co-interior}, $b = 70$ {co-interior},
 $c = 60$ {angles on a line}
- d** $a = 60$ {corresponding}, $b = 80$ {alternate}
- e** $a = 40$ {alternate}, $b = 70$ {alternate},
 $c = 40$ {alternate}
- f** $a = 40$ {alternate}, $b = 140$ {angles on a line},
 $c = 140$ {co-interior}

POLYGONS

- 1**
 - a** $a = 110$ {angles on a line}
 - b** $b = 90$ {angles on a line}
 - c** $c = 130$ {vertically opposite angles}
 - d** $a = 70, b = 70$
{vertically opposite angles/corresponding angles}
 - e** $a = 60$ {corresponding angles/angles of a triangle}
 - f** $a = 65, b = 75, c = 40$
{alternate, corresponding angles/angles on a line}
- 2**
 - a** $x = 60$ {angles of a triangle}
 - b** $p = 75$ {exterior angle of a triangle}
 - c** $n = 114$ {exterior angle of an isosceles triangle}
 - d** $x = 70$ {base angles of an isosceles triangle}
 - e** $x = 102$ {angles of a pentagon}
 - f** $x = 60$ {exterior angles of a quadrilateral}
- 3** **a** true **b** true **c** false **d** false
- 4**
 - a** acute angled isosceles **b** obtuse angled scalene
 - c** right angled isosceles

Section 2:

- 2**
 - a** $x = 87$ **b** $x = 43$ **c** $x = 36.5$ **d** $x = 90$
 - e** $x = 60$ **f** $x = 151$ **g** $x = 108$ **h** $x = 110$
 - i** $x = 120$
- 3** 13 angles