### Constructions

1. **L.O.**
   - find and draw a locus of points around a point (D)
   - find and draw a locus of points around a line (C)
   - draw triangles using a compass (C)
   - key words
   - find perpendicular bisectors of lines (C)
   - bisect angles (C)

### Answers

Last Year: $2012 = 9 \times 8 \times 7 \times 4 - 12 \times 6 \times 5 - 3$

This Year: $2013 = 9 \times 8 \times 7 \times 4 + 6 + 1 - 2 - 5 - 3$

Next Year: $2014 = 98 \times 7 \times 3 - 56 - 2 + 14$

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**Main 1:** locus of points around a point (D)

Draw a point

Now draw the locus of points 4cm away from it

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**Main 2:** locus of points around a line (D)

Draw a line 6cm long

Now draw the locus of points 4cm away from it

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**Main 3:** triangles using a compass (D)

If a line is 8cm long, how far is the top of the line from the bottom of it?
How could we find all the points that are 8 cm away from the red point?

How could we find all the points that are 10 cm away from the blue point?

Draw these triangles using a compass:

[Diagram of the triangles with sides 8 cm, 6 cm, and 10 cm drawn with a compass]

[Diagram of a triangle with sides 3 cm, 4 cm, and 5 cm with the caption: "Draw a 5 cm, 6 cm, 8 cm triangle"]
**Main 3:** triangles using a compass (D)

Which types of triangles can we draw using this technique?

**Hint:** What information do you need?

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**Key Words**

- **Locus**: all the points that are a set distance away from something.
- **Perpendicular Bisector**: cuts something into two parts.
- **Loci**: plural of locus.
- **Bisector**: cuts something into two parts.

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**Main 4:** perpendicular bisectors of lines (C)

Draw a line in your book with a point above it.

How could you draw a perpendicular bisector for this line, going through this point?

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**Main 4:** perpendicular bisectors of lines (C)

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**Main 4:** perpendicular bisectors of lines (C)
Main 4: perpendicular bisectors of lines (C)

Main 5: bisect angles (C)

Draw an acute angle in your book.

How could you bisect this angle, with the same angle either side of the bisection?

This circle must cover at least half of the angle.

The same size.
Plenary:

Draw a perpendicular line bisector through a line without a point above it.