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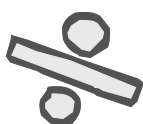
# Introduction



This book can be used by teachers or parents for a variety of purposes. It offers a wide overview of the ideas and concepts which students should know before they commence a formal study of algebra. Students who are familiar with angles, triangles, functions, area, volume, number properties, sets, factorials, permutations, combinations, measurement, complex fractions, percentages, multiples, factors, square roots, exponents, and the many other related topics, will be comfortable dealing with algebra in later years.



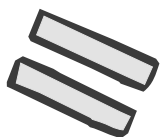
Because there are clear and simple instruction pages for each unit, this book may be used as a formal instruction vehicle for teaching the varied maths topics covered. Capable readers can do the units with little or no maths instruction and with only the occasional need to clarify a maths concept.



This book could also be used in whole-class teaching with the teacher or parent going page by page through the book. This book and its companion, *Maths Challenges: Years 4–6*, cover topics sequentially, and, by following the organisation of the book, teachers or parents will cover a very wide range of topics in a sensible and workable way.



Teachers may choose to select units or concepts where additional help is needed by the class, by a group of students, or by individuals. Each unit is capable of standing on its own as an instructional tool for individual topics.



Teachers and parents working with children who are relatively new to the concepts may want to use this book at a more gradual pace. A teacher may want to have two tracks within the class with one track moving at a faster pace and the other at a more gradual pace – with the tempo appropriate to the abilities and backgrounds of individual students. The organisation of the text also lends itself to use by a small group doing independent enrichment or advanced maths.



If students have difficulty with a specific concept or unit within this book, review the material and allow students to redo the pages that are giving them difficulty. Students should be allowed to use a calculator to check the accuracy of their work.

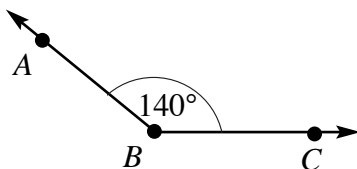
# What's Your Angle?

1

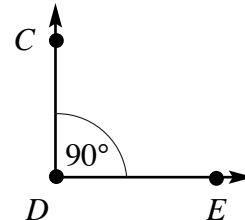
## Facts and Reminders

### Names of Angles

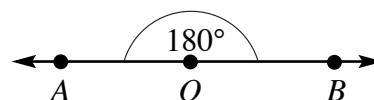
(Note: The direction an angle faces does not affect its name.)



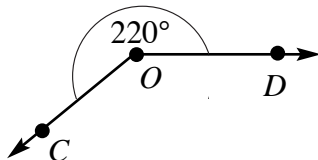
An *obtuse* angle has more than  $90^\circ$  and less than  $180^\circ$ .



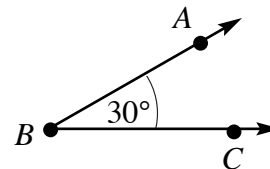
A *right* angle has exactly  $90^\circ$ .



A *straight* angle has exactly  $180^\circ$ .



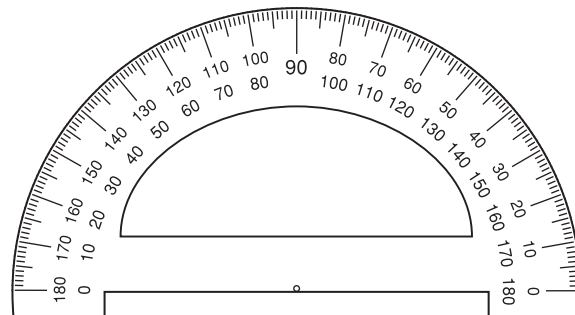
A *reflex* angle has more than  $180^\circ$  and less than  $360^\circ$ .



An *acute* angle has less than  $90^\circ$ .

### Protractor Facts

- A *protractor* is used to measure the exact size of an angle in terms of the number of degrees between  $0^\circ$  and  $180^\circ$ .
- There are usually two sets of numbers on a protractor – one set running from left to right and the other set from right to left. These two sets of numbers make it easy to line up the protractor on any angle.
- The half-way point of every protractor is  $90^\circ$ . It is usually written only once.



### Using a Protractor

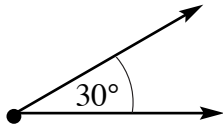
To measure an angle with a protractor, follow the steps below.

1. Put the dot or circle at the middle-bottom of the protractor directly on the vertex (point of the angle).
2. Carefully line up the black line at the bottom of the protractor along the bottom ray of the angle.
3. Notice where the top ray of the angle crosses the numbers on the protractor. (Note: Rulers may be needed to extend rays.)
4. Determine if the angle is acute, obtuse, right or straight.
5. Decide which set of numbers fits this angle.

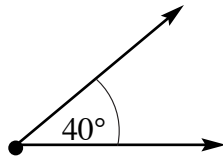
# What's Your Angle?

## Identifying Angles

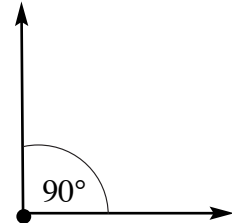
**Directions:** Study the Facts and Reminders page from this unit. Identify each of these angles as an *acute*, *right*, *obtuse*, *straight* or *right* angle.



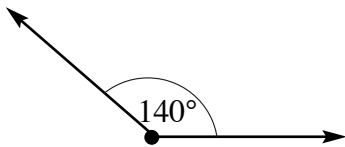
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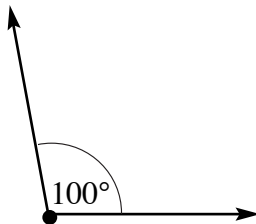
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3. \_\_\_\_\_



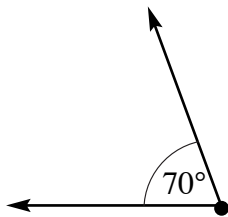
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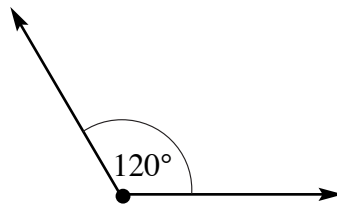
5. \_\_\_\_\_



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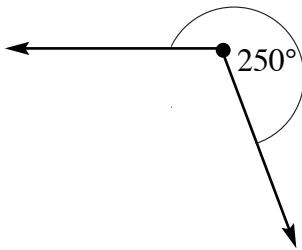
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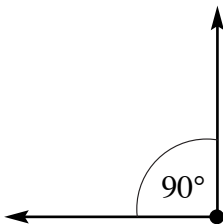
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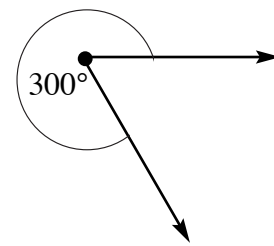
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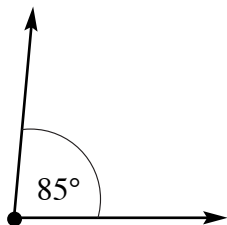
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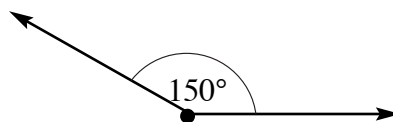
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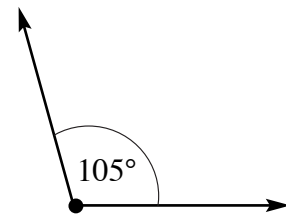
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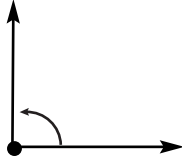
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# What's Your Angle?

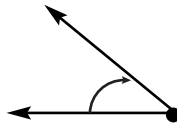
## Measuring Acute and Right Angles

**Directions:** Study the Facts and Reminders page for this unit. Use a protractor to measure these angles. Label the degrees. All of the angles on this page are  $90^\circ$  or less. (*Reminder:* An angle can face in any direction.)

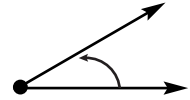
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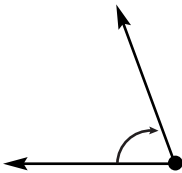
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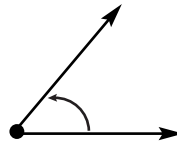
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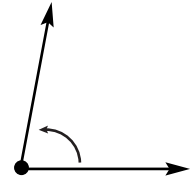
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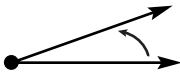
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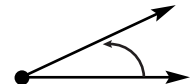
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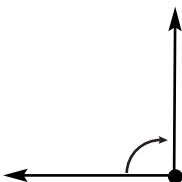
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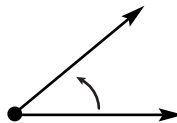
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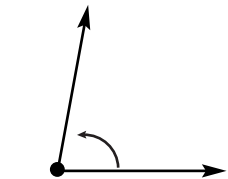
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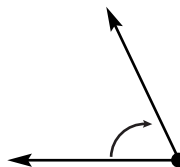
12.



13.



14.



15.

