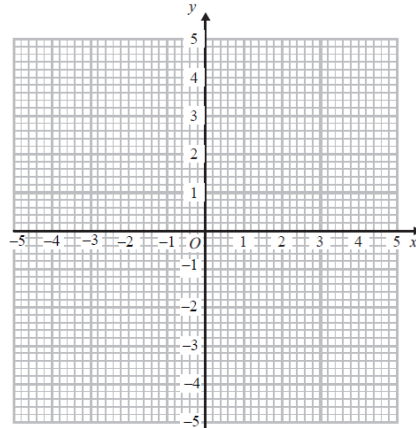


Solving Equations

$$\frac{x}{2} - \frac{2}{x+1} = 1$$

Circle Equations

Draw the graph of $x^2 + y^2 = 4$



Fractions and Formula

$$\frac{1}{u} + \frac{1}{v} = \frac{1}{f}$$

$$u = 2\frac{1}{2}, v = 3\frac{1}{3}$$

- (a) Find the value of f
- (b) Rearrange to make u the subject of the formula. Give your answer in its simplest form.

Recurring Decimals

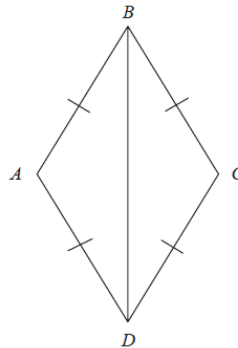
Express the recurring decimal $0.\dot{2}1\dot{3}$ as a fraction.

Roots and Turning Points

- (a) Write $x^2 + 10x + 5$ in the form $(x + a)^2 + b$
- (b) Write down the coordinates of the turning point of the graph $y = x^2 + 10x + 5$
- (c) Write down the exact roots of the equation $y = x^2 + 10x + 5$ in the form $a + b\sqrt{5}$ where a and b are integers.

Congruence

Prove that triangle ADB is congruent to triangle CDB .



Algebraic Proof

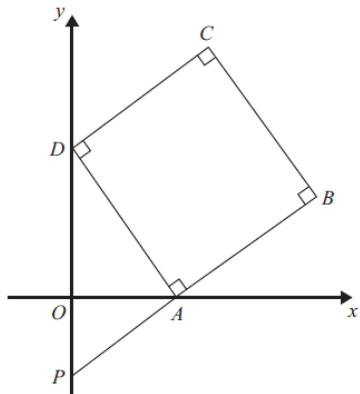
Prove, using algebra, that the sum of two consecutive whole numbers is always an odd number.

Quadratic Inequalities

- Solve:
- (a) $2x^2 + 5x - 3 \leq 0$
 - (b) $2x^2 - x - 3 > 0$

Coordinate Geometry

The equation of AD is $y = -2x + 5$
Find the length of PD.

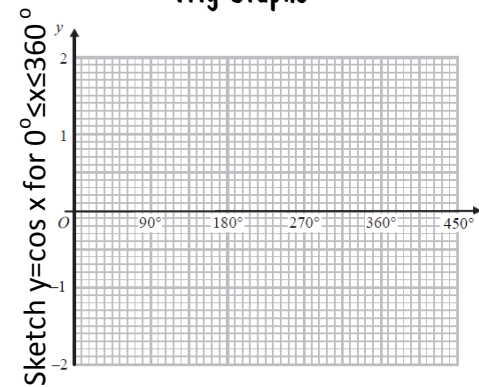


Quadratic Sequences

Find an expression in terms of n for the following sequence

8, 19, 34, 53, 76

Trig Graphs



Inverse Proportion

P is inversely proportional to V .

When $V=8$, $P=5$

- (a) Find a formula for P in terms of V .
- (b) Calculate the value of P when $V=2$