The skills in this series of worksheets appear frequently.

These are the GIFTS you must take to succeed

Solving Quadratic Inequalities

By sketching the parabola, solve:

1. $x^2 - 4x \geq 0$

2. $x^2 + 14x + 33 \leq 0$

3. $x^2 - x - 20 > 0$

4. $x^2 - 9x + 8 < 0$

5. $x^2 - 16 \geq 0$

6. $3x^2 - 27 \leq 0$

7. $2x^2 + 5x - 3 < 0$

8. $7 - 6x - x^2 \geq 0$

9. $4x^2 \geq 8x + 5$

10. $6 + 7x \leq 3x^2$

APPLYING QUESTIONS

1.   Find the values of x for which the function $f(x) = x^3 + 5x^2 - 8x + 3$ is increasing.

2. $x^2 - (k - 2)x + 4 = 0$ has no real roots
Find the range of values for k.

3.   A circle has equation $x^2 + y^2 - 2kx - ky - 7k + 3 = 0$.
Find the range of values for k.