Quads 4 Answers

Discriminant p.17

1a) $x^2+4x-3=0$

$b^2-4ac=16-(4\times1\times-3)$

$=16+12$

$=28$ 2 real (unequal) roots

b) $x^2+6x+9=0$

$b^2-4ac=36-(4\times1\times9)$

$=36-36$

$=0$ 2 repeated roots

c) $x^2+8x+7=0$

$b^2-4ac=64-(4\times1\times7)$

$=64-28$

$=36$ 2 real (unequal) roots

d) $3-5w-2w^2=0$

$b^2-4ac=25-(4\times-2\times3)$

$=25+24$

$=49$ 2 real (unequal) roots

e) $2x^2+7x+5=0$

$b^2-4ac=49-(4\times2\times5)$

$=49-40$

$=9$ 2 real (unequal) roots

f) $x^2-12x+36=0$

$b^2-4ac=144-(4\times1\times36)$

$=144-144$

$=0$ 2 repeated roots

g) $x^2-7x+12=0$

$b^2-4ac=49-(4\times1\times12)$

$=49-48$

$=1$ 2 real (unequal) roots

h) $2x^2+7x+9=0$

$b^2-4ac=49-(4\times2\times9)$

$=49-72$

$=-23$ no real roots

i) $5x^2-6x+3=0$

$b^2-4ac=36-(4\times5\times3)$

$=36-60$

$=-24$ no real roots

j) $6y^2-11y-2=0$

$b^2-4ac=121-(4\times6\times-2)$

$=121+48$

$=169$ 2 real (unequal) roots

k) $x^2-8x+9=0$

$b^2-4ac=64-(4\times1\times9)$

$=64-36$

$=28$ 2 real (unequal) roots

l) $3x^2+2x+7=0$

$b^2-4ac=4-(4\times3\times7)$

$=4-84)$

$=-80$ no real roots

m) $2x^2-7x+4=0$

$b^2-4ac=49-(4\times2\times4)$

$=49-32$

$=17$ 2 real (unequal) roots

n) $4x^2-3x+4=0$

$b^2-4ac=9-(4\times4\times4)$

$=9-64$

$=-55$ no real roots

o) $3x^2-2x-1=0$

$b^2-4ac=4-(4\times3\times-1)$

$=4+12$

$=16$ 2 real (unequal) root

p) $x^2+10x+25=0$

$b^2-4ac=100-(4\times1\times25)$

$=100-100$

$=0$ 2 repeated roots

q) $3x^2-7x+5=0$

$b^2-4ac=49-(4\times3\times5)$

$=49-60$

$=-11$ no real roots

r) $x^2-8x+16=0$

$b^2-4ac=64-(4\times1\times16)$

$=64-64$

$=0$ 2 repeated roots

Quads 4 Answers

3a) Discriminant is bigger than 0.

b) Discriminant is smaller than 0.

c) Discriminant is equal to zero.

d) Discriminant is bigger than 0.

e) Discriminant is equal to zero.

f) Discriminant is smaller than 0.