

Video 118

Answers

Workout:

Question 1:

- | | | | |
|-------------------|------------------|-------------------|------------------|
| a) $(x+3)(x+4)$ | b) $(x+2)(x+4)$ | c) $(x+2)(x+3)$ | d) $(x+7)(x+1)$ |
| e) $(x+2)(x+2)^*$ | f) $(x+5)(x+3)$ | g) $(x+3)(x+3)^*$ | h) $(x+7)(x+4)$ |
| i) $(x+5)(x+5)^*$ | j) $(x+2)(x+10)$ | k) $(x+24)(x+1)$ | l) $(x+8)(x+3)$ |
| m) $(x+2)(x+7)$ | n) $(x+20)(x+3)$ | o) $(x+25)(x+4)$ | p) $(x+17)(x+3)$ |

Question 2:

- | | | | |
|-----------------|-----------------|-----------------|------------------|
| a) $(x-3)(x+4)$ | b) $(x+6)(x-1)$ | c) $(x-2)(x+5)$ | d) $(x+4)(x-1)$ |
| e) $(x-6)(x+8)$ | f) $(x+8)(x-4)$ | g) $(x+7)(x-5)$ | h) $(x+11)(x-3)$ |

Question 3

- | | | | |
|-----------------|-----------------|-----------------|------------------|
| a) $(x+2)(x-5)$ | b) $(x+4)(x-5)$ | c) $(x-9)(x+3)$ | d) $(x-3)(x+1)$ |
| e) $(x-4)(x+3)$ | f) $(x+2)(x-6)$ | g) $(x-7)(x+3)$ | h) $(x-11)(x+5)$ |

Question 4

- | | | | |
|-------------------|-----------------|------------------|------------------|
| a) $(x-3)(x-3)^*$ | b) $(x-4)(x-5)$ | c) $(x-2)(x-7)$ | d) $(x-2)(x-11)$ |
| e) $(x-1)(x-8)$ | f) $(x-4)(x-8)$ | g) $(x-12)(x-3)$ | h) $(x-6)(x-8)$ |

Question 5:

- | | | | |
|-----------------|---------------------|------------------|-------------------|
| a) $(x+8)(x-2)$ | b) $(x+23)(x+1)$ | c) $(x+2)(x-7)$ | d) $(x-3)(x-4)$ |
| e) $(x+6)(x+6)$ | f) $(x+7)(x-9)$ | g) $(x+2)(x+12)$ | h) $(x+12)(x+5)$ |
| i) $(x-5)(x-6)$ | j) $(x-8)(x+4)$ | k) $(x-9)(x+7)$ | l) $(x-17)(x+1)$ |
| m) $(x-2)(x-9)$ | n) $(x-11)(x-2)$ | o) $(x+14)(x+4)$ | p) $(x-10)(x-11)$ |
| q) $(x-8)(x-8)$ | r) $(x+11)(x+11)^*$ | s) $(x-9)(x+8)$ | t) $(x-6)(x+3)$ |
| u) $(x-9)(x+5)$ | v) $(x-7)(x-9)$ | | |

*Note: Any repeated factor can be written as a square

ie $(x+2)(x+2) = (x+2)^2$

Question 6

- a) $(x+15)(x-7)$ b) $(x-22)(x+4)$ c) $(x-5)(x-70)$ d) $(x+16)(x+6)^*$
e) $(x+11)(x+14)$ f) $(x-60)(x+5)$ g) $(x-20)(x-9)$ h) $(x-15)(x+14)$

Apply

Question 1:

a could be 21, -21, 12, -12, 9, -9

Question 2:

b could be 8, -8, 17, -17, 10, -10

Question 3:

c could be 0, 5, 8, 9 (these are the only possible positive values)

Question 4:

Factorise $x^2 + x - 6$

$$(x-3)(x+2)$$

(The signs are the wrong way round)

Factorise $x^2 - 7x + 12$

$$(x+5)(x+2)$$

(The signs should both be "-")

Factorise $x^2 + 10x + 9$

$$(x+3)(x+3)$$

(3+3 does not =10!)

Factorise $x^2 + 8x + 16$

$$(x+4)(x+4)$$

(Correct, but could be written $(x+4)^2$)