2.9 Factorising into Single Brackets: 30-minute Pack

Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Factorise each pair where one term has a squared letter and the other does not.

(a) Factorise $x^2 + 5x$ **(1)**

(b) Factorise $6z^2 - 12z$ **(1)**

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2 Factorise each expression then give the sign of the bracket so that the expression inside is positive where possible.

(a) Factorise -15p + 5 and give factor with positive bracket **(3)**

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3 Factorise each expression that includes a decimal coefficient.

(a) Factorise 0.6x + 1.8 **(1)**

(b) Factorise 2.5y - 7.5 **(1)**

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4 (a) Factorise 40t + 72.
(b) Use your answer to (a) to work out the value of 40t + 72 when t = 5.

(3)

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5 Factorise each integer by taking out the greatest common factor.

(a) Factorise 28 + 70 **(1)**

(b) Factorise 45 - 15 **(1)**

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6 Factorise fully $p^2 - 8p$.

(2)

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7 Factorise fully $25a^2 + 35a$.

(2)

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8 Factorise fully $n^2 - 4n$.

(2)

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9 (a) Factorise 32x + 72.

(b) Use your answer to (a) to work out the value of 32x + 72 when x = 3.

(3)

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10 (a) Factorise 18b + 15.

(b) Use your answer to (a) to work out the value of 18b + 15 when b = 5.

(3)

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Mark scheme · 2.9 Factorising into Single Brackets: 30-minute Pack

Question 1

(a) x(x + 5) cao	B1
(a) Answer: **x(x + 5)**	
(b) 6z(z - 2) cao	B1
(b) Answer: **6z(z - 2)**	

Question 2

(a) take out -5 or 5 and change signs correctly	M1
(a) write factor form -5(3p - 1) or 5(-3p + 1) method	M1
(a) -5(3p - 1) cao	A1
(a) Answer: **-5(3p - 1)**	

Question 3

(a) 0.6(x + 3) oe	B1
(a) Answer: **0.6(x + 3)**	
(b) 2.5(y - 3) cao	B1
(b) Answer: **2.5(y - 3)**	

Question 4

a correct common factor taken out	M1
(a) 8(5t + 9)	A1
(b) 272	A1
Answer: **(a) 8(5t + 9), (b) 272**	

Question 5

(a) 2(14 + 35) or 14(2 + 5) oe	B1
(a) Answer: **14(2 + 5)**	
(b) 15(3 - 1) oe	B1
(b) Answer: **15(3 - 1)**	

Question 6

a correct common factor taken out (partial factorisation)	M1
p(p - 8) cao	A1
Answer: **p(p - 8)**	

Question 7

a correct common factor taken out (partial factorisation)	M1
5a(5a + 7) cao	A1
Answer: **5a(5a + 7)**	

Question 8

a correct common factor taken out (partial factorisation)	M1
n(n - 4) cao	A1
Answer: **n(n - 4)**	

Question 9

a correct common factor taken out	M1
(a) 8(4x + 9)	A1
(b) 168	A1
Answer: **(a) 8(4x + 9), (b) 168**	

Question 10

a correct common factor taken out	M1
(a) 3(6b + 5)	A1
(b) 105	A1
Answer: **(a) 3(6b + 5), (b) 105**	

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