

1. a) 1)

Ordered pair	$z = 3x - 2y$
(1, 8)	-13
(2, 14)	-22
(13, 2)	35
(12, 8)	20
(8, 9)	6
(9, 8)	11
(9, 5)	17
(10, 10)	10

- 2) i) (2, 14)
ii) (13, 2)

b) 1)

Ordered pair	$z = -4x + 3y$
(6, 6)	-6
(8, 10)	-2
(10, 8)	-16
(12, 4)	-36
(9, 14)	6
(6, 8)	0
(3, 12)	24
(9, 7)	-15

- 2) i) (12, 4)
ii) (3, 12)

ANSWER KEY TO REPRODUCIBLE SHEETS

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c) 1)

Ordered pair	$z = 2x + 5y$
(14, 8)	68
(9, 2)	28
(10, 15)	95
(16, 14)	102
(11, 11)	77
(8, 9)	61
(6, 1)	17
(4, 0)	8

- 2) i) (4, 0)
ii) (16, 14)

d) 1)

Ordered pair	$z = -x - 2y$
(8, 8)	-24
(-2, -6)	14
(2, 6)	-14
(-1, 4)	-7
(12, 4)	-20
(8, 11)	-30
(-8, -3)	14
(-6, -4)	14
(3, -10)	17

- 2) i) (8, 11)
ii) (3, -10)

Support 1.3 (cont'd)

2. a) (2, 15)

3. a) 1) x : surface painted with primer (m^2)
 y : surface painted with colour (m^2)

- 2) $x \geq 0, y \geq 0$
 $x \geq \frac{y}{2}$
 $x \leq 2y$
 $x + y \geq 132$
 $x + y \leq 220$

3) z : maximize profits (\$) $z = 13.45x + 14.55y$

c) 1) x : number of disc brakes
 y : number of disc pads

- 2) $x \geq 0, y \geq 0$
 $x + y \leq 300$
 $x \geq 2y$

b) (4, 3)

b) 1) x : number of large hangers
 y : number of small hangers

- 2) $x \geq 0, y \geq 0$
 $x + y \geq 300$
 $x + y \leq 1000$
 $x \geq 3y$

3) z : minimize costs (\$) $z = 0.55x + 0.35y$

3) z : maximize revenue (\$) $z = 26x + 89y$

1. a) A maximum. b) A minimum. c) A minimum.
 d) A maximum. e) A minimum. f) A maximum.
2. a)

Ordered pair	$z = 2x + 3y - 8$
(3, 8)	22
(5, -6)	-16
(-8, 9)	3
(8, 8)	32
(-2, -4)	-24
(0, 9)	19

- 1) (8, 8)
 2) (-2, -4)

b)

Ordered pair	$z = 14x - 3y + 26$
(8, 2)	132
(-3, -8)	8
(5, -6)	114
(-7, -1)	-69
(3, 14)	26
(7, 0)	124

- 1) (8, 2)
 2) (-7, -1)

3. a) 1) C(10, 2) 2) A(4, 18)
 b) 1) All the points located on side BC. 2) E(3, 2)
 c) 1) B(9, 18) 2) D(11, 5)
 d) 1) B(19, 19) 2) D(0, 3)