

# BLM Answers

## Get Ready

1. a) -4      b) -6      c) -20      d) 4

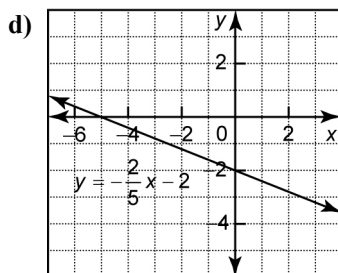
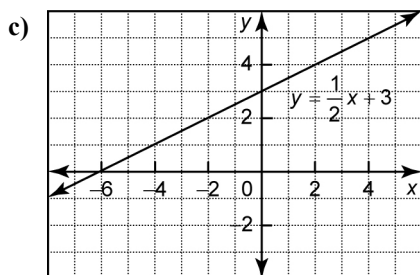
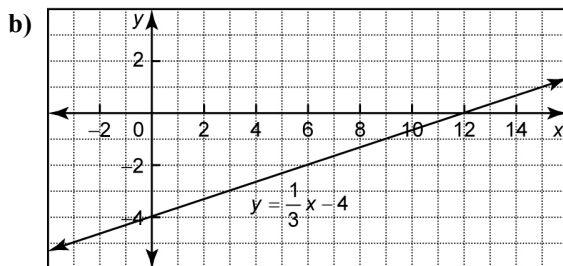
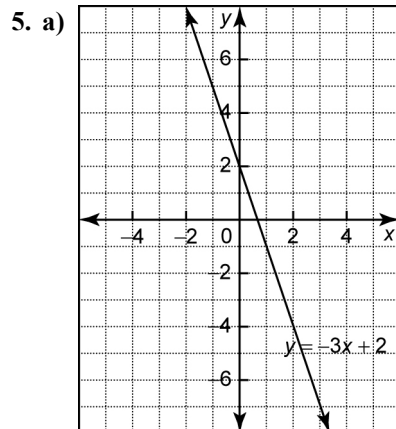
2. a) 1      b) 0      c)  $-\frac{5}{2}$       d)  $\frac{5}{3}$

3. a)  $5x + 2y$       b)  $x + 3y$

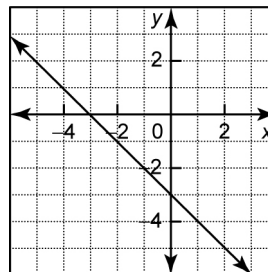
c)  $9a - 6b$       d)  $-6a - 8b$

4. a)  $-21a - 2b$       b)  $13x + 15y$

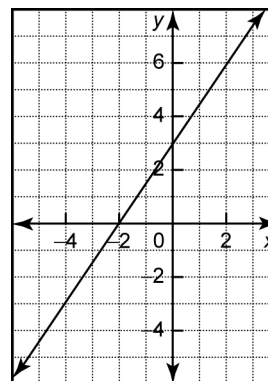
c)  $x - 16y + 30$       d)  $-3a - b + 5c$



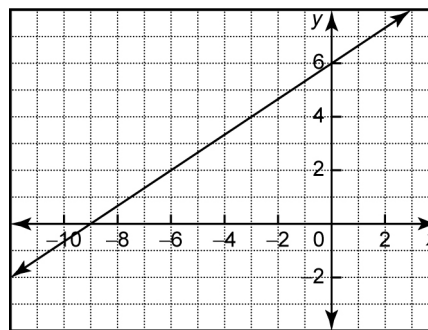
6. a)  $y = -x - 3$



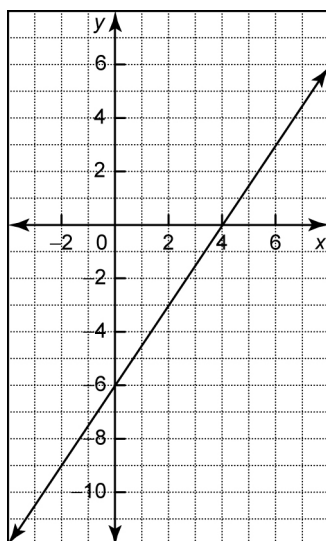
b)  $y = \frac{3}{2}x + 3$



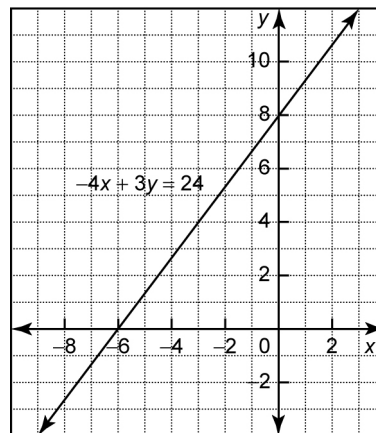
c)  $y = \frac{2}{3}x + 6$



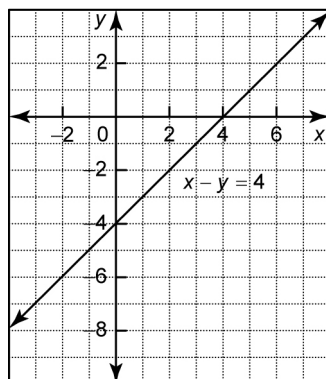
d)  $y = \frac{3}{2}x - 6$



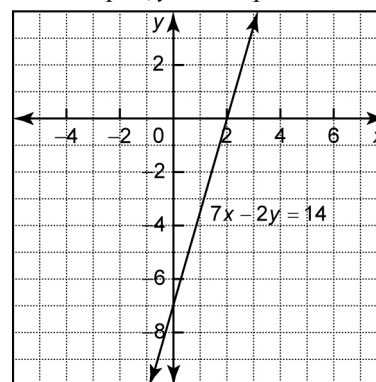
c) x-intercept -6, y-intercept 8



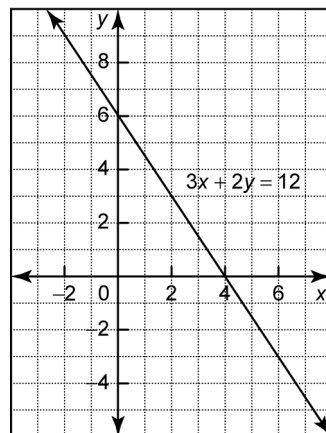
7. a) x-intercept 4, y-intercept -4



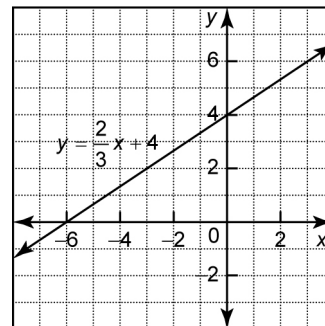
d) x-intercept 2, y-intercept -7



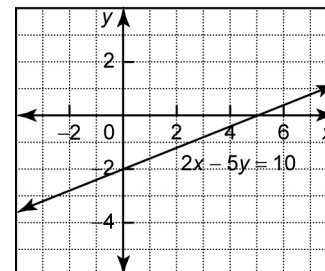
b) x-intercept 4, y-intercept 6

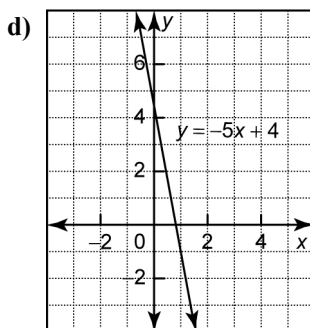
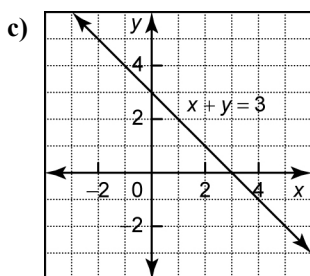


8. a)

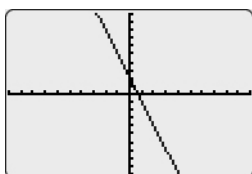


b)

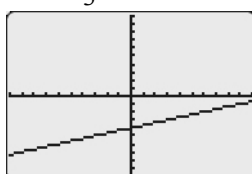




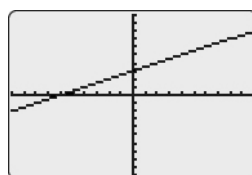
9. a)  $y = -3x + 2$



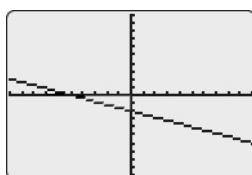
b)  $y = \frac{1}{3}x - 4$



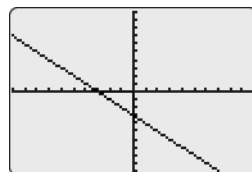
c)  $y = \frac{1}{2}x + 3$



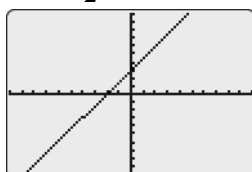
d)  $y = -\frac{2}{5}x - 2$



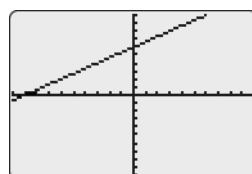
10. a)  $y = -x - 3$



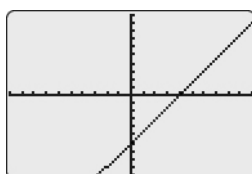
b)  $y = \frac{3}{2}x + 3$



c)  $y = \frac{2}{3}x + 6$



d)  $y = \frac{3}{2}x - 6$



11. a) 28 g                      b) \$52.50  
12. a) \$60                     b) \$900  
      c) \$386.40                d) \$499.50  
13. a) 2                        b) 3                        c) 9

### Section 1.1 Practice Master

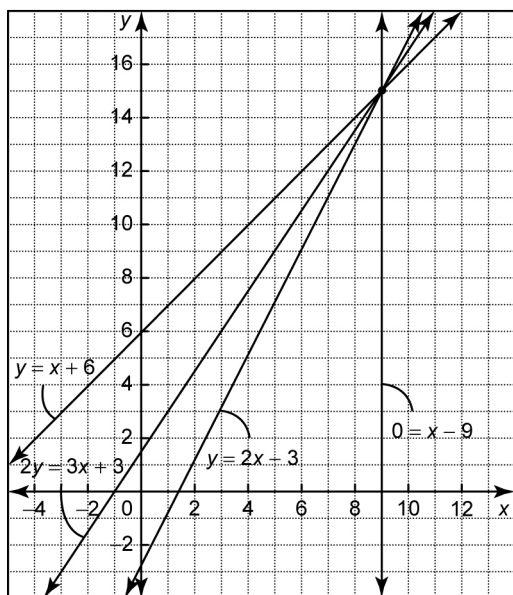
1. a)  $3x + 6$                 b)  $\frac{1}{3}n - 5$   
      c)  $(x + 4)y$             d)  $p - \frac{1}{4}$   
2. a)  $3l$                       b)  $0.15A$   
      c)  $\frac{1}{2}d$                     d)  $0.11m$   
3. a)  $3x - 4 = 2$           b)  $\frac{1}{3}n + 2 = 1$   
      c)  $x = 5(y + 2)$       d)  $1.14x = 95.76$   
4. a)  $a + a + 51 = 355$     b)  $2(w + 2w + 23) = 172$   
      c)  $2x + 3(x + 1) = 113$    d)  $j + j + 7 = 183$   
5. a) (3, 19)    b) (5, 4)    c) (-1, 2)    d) (2, -3)  
6. a) (7, 3)    b) (1, 2)    c) (3, 1)    d) (2, 0)  
7. a) (-4.35, -2.26)        b) (1.54, -0.81)  
      c) (3.89, -0.26)        d) (-2.67, 0.33)  
8. a)  $C = 50$ ;  $C = 40 + 0.05t$ ;  $C$  is the monthly charge and  $t$  is time, in minutes, over 300 min/month  
      b) (200, 50)  
      c) Both plans cost \$50 for 500 min/month (300 min + 200 min).  
      d) Cell Plus; A1 Cell

### Section 1.2 Practice Master

1. a) (3, 3)                    b)  $(28, \frac{17}{2})$   
      c) (2, 2)                    d) (1, 3)  
2. a) Solve  $x + 6y = 5$  for  $x$ ;  $x = 5 - 6y$ .  
      b) Solve  $2x + y = 7$  for  $y$ ;  $y = 7 - 2x$ .  
      c) Solve  $-x + 3y = 4$  for  $x$ ;  $x = 3y - 4$ .  
      d) Solve  $x - y = 11$  for  $x$  or  $y$ ;  $x = 11 + y$  or  $y = x - 11$ .  
3. Yes. The point satisfies both equations.  
4. a) (2, 3)                    b) (-7, -19)  
      c) (-2, -2)              d)  $(\frac{1}{7}, -\frac{4}{7})$   
5. a)  $(\frac{32}{7}, -\frac{9}{7})$                 b) (4, 5)  
      c) (3.2, 6.2)             d)  $(\frac{1}{2}, -\frac{1}{2})$   
6. a)  $a + s = 330$ ;  $6a + 10s = 2380$   
      b) 230 adult tickets and 100 student tickets  
7. a)  $C = 15t + 200$ ;  $C = 20t + 100$ ;  $C$  is the cost and  $t$  is time, in minutes.  
      b) (20, 500)  
      c) 20 months  
      d) Champion Health Club

## Section 1.3 Practice Master

1. A and D
2. Answers may vary. For example:
  - a)  $2y = -8x + 6$ ;  $3y = -12x + 9$
  - b)  $6x + 4y = 10$ ;  $9x + 6y = 15$
  - c)  $4x + 10y - 12 = 0$ ;  $-4x - 10y + 12 = 0$
  - d)  $2y = 12x - 6$ ;  $\frac{y}{2} = 3x - \frac{3}{2}$
3. Answers may vary. For example:  $2(l + w) = 30$ ;  $l + w = 15$
4. Answers may vary. For example:  $0.25q + 0.05n = 1.65$ ;  $5q + n = 33$
5. Equation ③ is equation ① multiplied by 3. Equation ④ is equation ② multiplied by 4.
6. a) The four lines pass through the same point.



- b) Equation ③ is the sum of equations ① and ②.
- c) Equation ④ is equation ② minus equation ①.

## Section 1.4 Practice Master

1. a) (5, 4)      b) (2, 2)  
c) (-1, 3)    d) (0, -3)
2. a)  $\left(-\frac{1}{2}, -\frac{3}{2}\right)$     b) (9, 6)  
c) (-1, -3)    d) (5, 3)
3. a) (-2, -1)    b) (0, -6)  
c) (1, -2)      d) (1, 0)
4. a) (-1, -3)    b) (1, 6)  
c) (-2, 3)      d) (1, 3)
5. a) (1, 1)      b)  $\left(\frac{52}{11}, \frac{57}{11}\right)$   
c) (-1, -3)    d) (-0.4, -1.1)
6. a) (12, 6)      b) (2, 1)

7. a) There are 10 provinces. Three times the number of provinces with names with First Nations origins minus twice the number of names with other origins is zero.  
b) 4
8. veggie sub \$5, roast beef sub \$6
9. Let  $n$  represent the cost of one night's accommodation and  $m$  represent the cost of one meal.  
 $2n + 4m = 360$   
 $7n + 10m = 1200$   
Solution: (150, 15)  
One night's accommodation costs \$150 and one meal costs \$15.
10. The Mackenzie is 4241 km long and the Yukon is 3185 km long.

## Section 1.5 Practice Master

1. 27, 29
2. soccer ball \$35, basketball \$50
3. chocolate almonds 41, chocolate bars 55
4. a)  $C = 5p + 250$ ;  $C = 4p + 400$ ;  $C$  is the cost and  $p$  is the number of pages.  
b) (150, 1000)  
c) Printing 150 pages costs \$1000 at both companies.  
d) the second company
5. \$2800 at 11%; \$1200 at 8%
6. regular rate \$17.50, overtime rate \$24
7. \$15/day; \$0.10/km
8. 240 g of 30% fruit; 360 g of 15% fruit
9. 25 mL
10. 30 min
11. 500 km
12. Let the cost of the middle house be  $m$ . Write expressions for all the other houses, and solve an equation with the sum of the expressions on one side and the total cost of all the houses on the other side. The house on one end costs \$200 000 and the house on the other end costs \$186 000.

## Chapter 1 Review

1. a) Let the middle number be  $x$ .  $x - 1 + x + x + 1 = 75$   
b) Let  $l$  represent the number of loonies and  $t$  represent the number of toonies.  $l + 2t = 25$   
c) Let  $j$  represent Jennifer's age and  $h$  represent Herbert's age.  $3j = h + 26$
2. a)  $m = 3a$ ;  $m + 1 = 2(a + 1)$   
b)  $x + y = 400$ ;  $2x + 3y = 894$
3. a) (4, -1)      b) (-2, 2)  
c)  $\left(\frac{1}{2}, 5\right)$     d) (-2, 1)
4. a) (5, -3)      b) (-1, 2)  
c) (4, -2)      d)  $\left(1, \frac{1}{3}\right)$

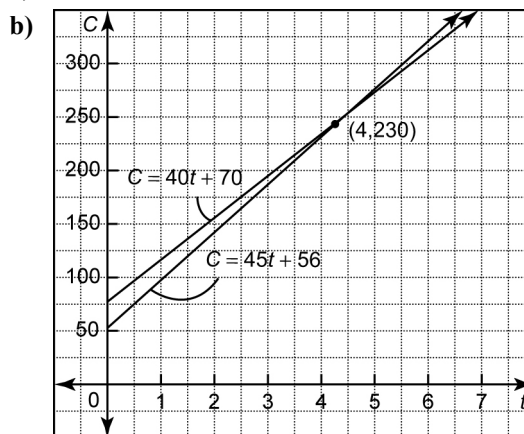
5. a) Yes. The point satisfies both equations.  
b) No. The point only satisfies the first equation.
6. Sahara Desert: 9 million square kilometres; Australian Desert: 4 million square kilometres
7. C
8. a) Equation ③ is equation ① multiplied by 5 and rearranged.  
Equation ④ is equation ② multiplied by 7 and rearranged.  
b) Equation ③ and equation ① represent the same line.  
Equation ④ and equation ② represent the same line.
9. Mount Pleasant 16, Centreville 15
10. a) (9, -5)    b) (1, 2)    c) (3, 2)    d) (-1, 4)
11. a) (3, -4)    b) (2, 2)
12. cost of a large pizza \$12, cost per topping \$0.75
13. 4 L of 15% salt and 6 L of 25% salt
14. plane speed 550 km/h, wind speed 50 km/h
15. a)  $C = 25r + 200$ ;  $C = 20r + 250$   
b) (10, 450)  
c) It costs \$450 for 10 rounds at both clubs.  
d) i) private club  
ii) public club

### Chapter 1 Practice Test

1. D
2. C
3. a)  $R - 1 = 2(S - 1)$     b)  $l = 3w + 5$   
c)  $3x - 2 = 11$     d)  $\frac{1}{2}(a + 10) = 14$
4. a) (-2, 1)    b) (4, 3)    c) (-1, 0)    d) (-2, -3)
5. a) (6, 11)    b)  $\left(-\frac{29}{9}, -\frac{40}{9}\right)$   
c) (2, 2)    d)  $\left(-3, \frac{1}{2}\right)$
6. a) (11, 8)    b)  $\left(\frac{16}{11}, \frac{18}{11}\right)$   
c) (-1, -1)    d) (2, 1)
7. a) (3, 2)    b) (2, -2)  
c)  $\left(\frac{2}{3}, \frac{1}{3}\right)$     d)  $\left(-\frac{4}{7}, -\frac{2}{7}\right)$
8. a)  $C = t + 14$ ;  $C = 1.5t + 12$ ;  $C$  is the cost and  $t$  is the number of toppings.  
b) (4, 18)  
c) A four-topping large pizza costs \$18 at both places.  
d) Romano Pizza
9. 61, 39
10. bolt 20 g, container 35 g
11. Lawrence 25, Patrick 13
12. 10 mL of the 5% solution and 40 mL of the 10% solution
13. \$2000 at 5%/year and \$3000 at 8%/year

### Chapter 1 Test

1. D
2. B
3. a) These are the equations of the lines written in slope and y-intercept form.  
b) This system has the same solution as the graphed system.  
c) This system has the same solution as the graphed system.
4. a)  $j = 3a$ ;  $j - 2 + a - 2 = 16$   
b)  $x + y = 14$ ;  $x - y = 4$   
c)  $2(l + w) = 22$ ;  $l = w + 3$   
d)  $e = 2m$ ;  $e + m = 309.40$
5. a) (-2, -5)    b) (1, 1)  
c) (0, 1)    d) (2, 2)
6. a) (3, -1)    b) (5, 1)  
c) (2, -3)    d) (-1, 5)
7. a) (-2, 6)    b) (1, 1)  
c) (2, -1)    d) (-2, -3)
8. a)  $C = 40t + 70$ ;  $C = 45t + 50$



- c) Both companies charge \$230 for a 4-h service call.
- d) KemiKal Balance
9. 3.2 kg of 40% almonds and 2.8 kg of 25% almonds