13. **7.** (60, 12); **8.** $(\frac{53}{2}, 106)$; **9.** (21, 17); **10.** 125 km, Rent a Heap; < 125km, Kurt's; **11.** 15 $2, 25 $5

14. 800 km

15. 42 units^2

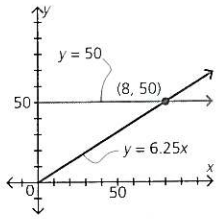
16. **(a)** scalene **(b)** $(-6, 0)$, $(2, 4)$, $(6, -2)$

17. deny

18. **(a)** Walton, Norwich **(b)** Everett, Mactier, Marysville

(c) Barrie **(d)** Delhi, Vernon

19. **(a)**



(b) 8

20. Possible solution using TI-83 Plus:
Enter Y1 = 5X − 6; enter Y2 = −3X + 9;
ZOOM 0; 2nd TRACE and follow instructions.

21. **(a)** $(0, \frac{-1}{3})$ **(b)** $(\frac{1}{4}, \frac{-1}{5})$

22. **(a)** (0, 1), $(\frac{-3}{2}, \frac{11}{2})$ **(b)** $(\frac{1}{2}, 2)$, $(\frac{-1}{2}, -2)$

(c) (0, 0), (1, 1) **(d)** $(\sqrt{3}, 0)$, $(-\sqrt{3}, 0)$

Practise, Apply, Solve 1.8, page 92

1. **(a)** $y = -3x + 12$ **(b)** $y = 4x + 15$
(c) $y = 12x - 3$ **(d)** $y = 8x - 6$
(e) $y = x + 9$ **(f)** $y = \frac{13}{12}x - \frac{7}{6}$

2. **(a)** $x = -3y + 5$ **(b)** $x = 2y + 18$
(c) $x = 8y - 5$ **(d)** $x = -3y + 8$
(e) $x = \frac{1}{5}y - \frac{1}{5}$ **(f)** $x = 7y + 6$

3. **(a)** $b = -8a + 4$ **(b)** $n = 4m - 3$
(c) $r = -\frac{1}{2}s + \frac{3}{2}$ **(d)** $e = \frac{4}{5}d - \frac{12}{5}$
(e) $p = -\frac{1}{2}q + 2$ **(f)** $v = -\frac{3}{7}u + 3$

4. **(a)** $y = -1$ **(b)** $x = 3$ **(c)** $y = 0$
(d) $s = \frac{15}{2}$ **(e)** $m = -\frac{13}{2}$ **(f)** $b = 3$

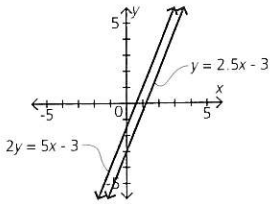
5. **(a)** $x = -4y - 10$; $(2, -3)$
(b) $y = -2x + 1$; $(2, -3)$
(c) It does not matter which way one solves the problem.

6. Substitution is more accurate but graphing by technology is easier when a non-exact solution is required.

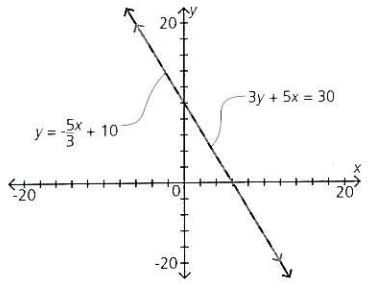
7. **(a)** (2, 1) **(b)** $(-1, 2)$ **(c)** (1, 0)
(d) (1, 0) **(e)** $(-1, -1)$ **(f)** (0, 1)

8. **(a)** $(\frac{7}{4}, \frac{-11}{4})$ **(b)** (6, 2) **(c)** $(x, 4 - x)$
(d) $(-1, 1)$ **(e)** (1, 2) **(f)** (2, 1)
(g) $(-12, -13)$ **(h)** $(1, -1)$ **(i)** (4, −3)

9. **(a)** no solution
(b) Both variables cancel out and an untrue statement results. Therefore, the lines are parallel and distinct.
(c)



10. **(a)** $x \in R$, $y = -\frac{5}{3}x + 10$
(b) Everything cancels out since the lines are identical.
(c)



11. **(a)** $5000
(b) if they thought they could not sell more than $5000/month

12. **(a)** $(-5, -3)$ **(b)** (9, 6) **(c)** $(\frac{-33}{7}, \frac{-17}{7})$
(d) (6, −6) **(e)** $(-15, -5)$ **(f)** $(-4, -6)$
(g) (2, 4) **(h)** $(1, -3)$ **(i)** (2, 1)

13. (31, 58)

14. plane: 250 km/h, wind: 50 km/h

15. Substitute the value of one of the variables into the other equation.

16. 9 m × 11 m

17. 810

18. 63

19. **12.** John is 16, Margie is 20; **13.** 40 dimes, 36 quarters; **14.** < 2 kg; **15.** $3000 at 10%, $5000 at 12%; **16.** $3.50

20. $5.10

21. **(a)** $x = 60, y = 30$ **(b)** $x = 104, y = 28$
(c) $x = 50, y = 70$ **(d)** $x = 100, y = 50$
(e) $x = 40, y = 30$ **(f)** $x = 40, y = 50$

22. > 8 cheques, Ontario Trust; < 8 cheques, Maple Leaf Savings

23. −10 should be +10; $2x - (4x - 10) = 4$; $-2x + 10 = 4$; $-2x = -6$; $x = 3$

24. $(-2, -5)$

25. meat submarines $2900, veggie submarines $1300

26. **(a)** (4, 2) **(b)** (3, 12)

27. **(a)** $(10a, -2a)$ **(b)** $(a, 2b)$