

Practise, Apply, Solve 1.9, page 101

- (a) (8, 7) (b) (8, 7) (c) yes; yes
- (a) x by subtraction (b) x by subtraction
(c) y by subtraction (d) y by addition
(e) y by subtraction (f) x by subtraction or y by addition
- (a) (3, 1) (b) (2, -1) (c) (-1, 3)
(d) (1, 0) (e) (0, -2) (f) (3, 1)
- (a) multiply $x - 2y = -7$ by 3, and subtract
(b) multiply $3x + y = 9$ by 2, and add
(c) $(\frac{11}{7}, \frac{30}{7})$
- plane 336 km/h, wind 48 km/h
- (a) (1, 1) (b) (-3, -1) (c) (2, -3)
(d) $(\frac{40}{3}, 25)$ (e) (4, 0) (f) (-2, 3)
(g) (8, -1) (h) (5, 4) (i) (2, -2)
(j) (5, -6) (k) (2, 7) (l) (1, -3)
- Elimination is easier when an LCM can be found easily between either the x - or y -coefficients. Otherwise, use substitution.
- (a) simplify $3(x - 1) - 2(y + 2) = 7$
(b) (6, 2)
- Multiply $3x + 2y = 22$ by 5 and $5x - 4y = 22$ by 3.
- (a) (-1, -1) (b) (0, -1) (c) (0, -2)
(d) (0, 3) (e) (-1, 4) (f) (3, 12)
- (a) $y = x$, $y = x + 1$
(b) All variables are eliminated and an untrue statement results.
- (a) $y = x$, $2y = 2x$
(b) All variables are eliminated and a true statement results.
- Answers may vary.
- 72 chicken, 228 beef
- \$600 in savings, \$150 in chequing
- 90 g of 40%, 60 g of 50%
- 6 h 40 min
- 2000 bass, 8000 perch
17. 12 kg raisins, 8 kg peanuts; 18. 400 km; 19. 2 h;
20. 15 practice, 5 game; 21. \$900 at 9%, \$1100 at 10%; 22. Sarah is 15, her mother is 36
- signs same: subtract; signs different: add
- $(\frac{53}{20}, \frac{3}{20})$
- $p = -\frac{9}{5}$, $q = \frac{113}{5}$
- 5 h
- 45
- $x = \frac{(de - bf)}{(ad - bc)}$, $y = \frac{(ce - af)}{(bc - ad)}$; $bc \neq ad$

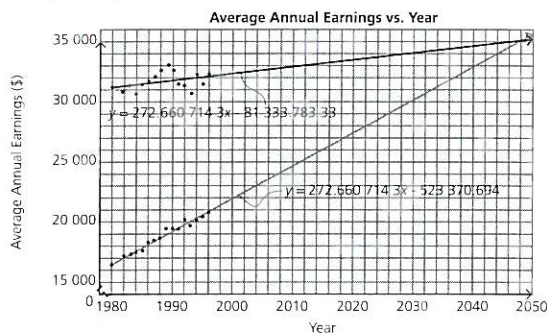
Practise 1.10, page 107

- (a) $y = ax + b$, $a = 3.690\ 909\ 091$, $b = 6.090\ 909\ 091$,
 $r^2 = 0.984\ 095\ 522\ 4$, $r = 0.992\ 015\ 888\ 2$
- (b) $y = ax + b$, $a = 1.380\ 090\ 498$,
 $b = -2.067\ 873\ 303$, $r^2 = 0.937\ 477\ 955$,
 $r = 0.968\ 234\ 452\ 5$
- (c) $y = ax + b$, $a = 2.6$, $b = 0$, $r^2 = 1$, $r = 1$

- (d) $y = ax + b$, $a = -0.270\ 454\ 545\ 5$,
 $b = 591.881\ 818\ 2$, $r^2 = 0.869\ 092\ 917\ 6$,
 $r = -0.932\ 251\ 531\ 3$
- (e) $y = ax + b$, $a = 158.5$, $b = -18.714\ 285\ 71$,
 $r^2 = 0.927\ 739\ 906\ 7$, $r = 0.963\ 192\ 559\ 5$
- (f) $y = ax + b$, $a = 0.595$, $b = -9.471\ 111\ 111$,
 $r^2 = 0.865\ 508\ 420\ 9$, $r = 0.930\ 327\ 050\ 5$

Practise, Apply, Solve 1.11, page 112

1. (a - b)



- (c) (2048, \$35 097)
(e) linear regression
(f) Linear regression is more accurate than a hand-drawn scatter plot.
- (a) not very confident
(b) unconfident
(c) reasonably confident
(d) unconfident
- (a) (0.05, 5.29) (b) (-1.12, -0.53)
(c) A: not very confident, B: somewhat confident
- 1863
- never
- (a) 1908
(b) urban 21 575 000, rural 6 835 000
- Answers will vary.
- 1993
- (a) yes
(b) commercial increasing, passenger decreasing
(c) 1999
- 2082
- (a) males decreasing spending, females increasing spending
(b) no, according to data
- Never, since Vancouver prices increasing faster - already occurred in 1981.
- Answers may vary.
- The crime rate is decreasing in Toronto and increasing in Calgary.
- The claim is not valid.
- The predictions will not always come true because most data is not perfectly represented by a linear model.