Math 10

Lesson 4-8 Answers

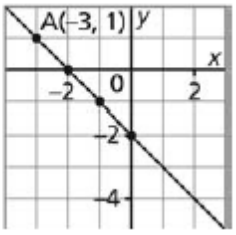
Assignment

1. a) $-\frac{2}{3}$ b) $\frac{4}{5}$

2. a) Negative b) Negative c) Zero

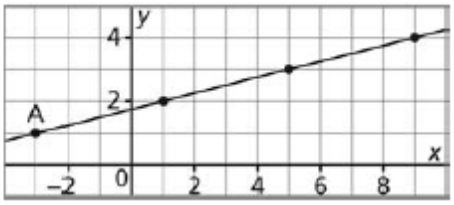
3. Sketches and coordinates may vary.

a) i)



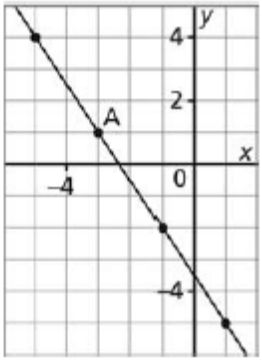
ii) (–2, 0), (–1, –1), (0, –2)

b) i)



ii) (1, 2), (5, 3), (9, 4)

c) i)



ii) (–5, 4), (–1, –2), (1, –5)

4.

a) 160; for every 1 min Gabrielle jogs, she covers a distance of 160 m.

b) Slope is equal to the rate of change.

c) i) 640 m ii) 6.25 min, or 6 min 15 s

5. a) i) 3 ii) $-\frac{1}{3}$

   b) i) $-\frac{6}{5}$ ii) $\frac{5}{6}$

   c) i) $\frac{11}{8}$ ii) $-\frac{8}{11}$

   d) i) 1 ii) –1

6. a) Perpendicular; slope of JH: 2; slope of KM: $-\frac{1}{2}$

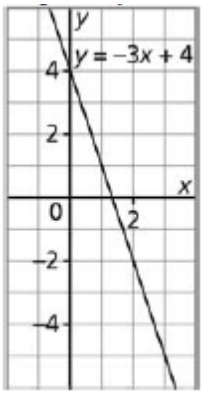
   b) Neither; slope of NP: 3; slope of QR: –3

7. No; slope of ST: $-\frac{1}{3}$; slope of TU: 3; slope of UV: $-\frac{4}{9}$; slope of SV: $\frac{5}{2}$

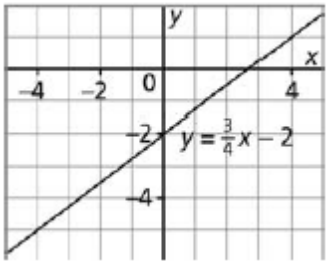
8. Yes; The slopes of AB and BC are negative reciprocals, so AB and BC are perpendicular.

   Slope of AB: 2; slope of BC: $-\frac{1}{2}$

9. a) Slope: –3; *y*-intercept: 4



   b) Slope: $\frac{3}{4}$; *y*-intercept: –2



10. a) Slope: –3; y-intercept: 4

    b) Slope: $\frac{3}{4}$; y-intercept: –2

11. a) i) Slope: $\frac{5}{3}$; *y*-intercept: 1

    ii) $y = \frac{5}{3}x + 1$

    b) i) Slope: $-\frac{3}{2}$; *y*-intercept: –1

    ii) $y = -\frac{3}{2}x - 1$

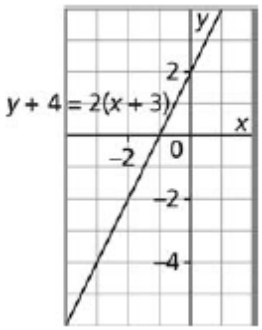
12. a) Graph C
    b) Graph D
    c) Graph A
    d) Graph B

13. a) $A = 15w + 40$
    b) 21 weeks
    c) The slope would represent the amount Mason saved each week: \$15; the vertical intercept would represent the amount in his bank account when he started saving: \$40

14. Equations may vary. For example:
    a) $y = \frac{4}{7}x + 1$ and $y = \frac{4}{7}x - 10$
    b) $y = -\frac{7}{4}x + 1$ and $y = -\frac{7}{4}x - 10$

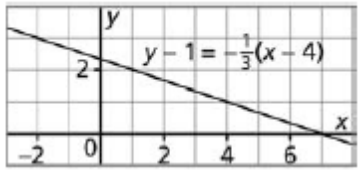
15. $y - 3 = -\frac{1}{2}(x + 2)$

16. Coordinates and forms of the equation may vary.
    a) i) 2; (–3, –4)
    ii)



    iii) $y + 2 = 2(x + 2)$

    b) i) $-\frac{1}{3}$; (4, 1)
    ii)



    iii) $y - 2 = -\frac{1}{3}(x - 1)$

17. Forms of the equation may vary. For example:

a) $y = \frac{2}{3}(x-2)$

b) $y-2 = -\frac{3}{5}(x+3)$

18. Forms of the equation may vary.

a) i) $y-5 = 3(x-1)$ *or* $y+7 = 3(x+3)$

ii) $y+1 = -\frac{1}{2}(x-5)$ *or* $y-3 = -\frac{1}{2}(x+3)$

b) Coordinates may vary. For example:

i) (2, 8)

ii) (1, 1)

19. Variables may differ. For example:

a) Let C represent the cost, and p represent the number of people: $C = 44p$

b) \$44

c) 6 people

20. b) i) $5x - 4y + 40 = 0$

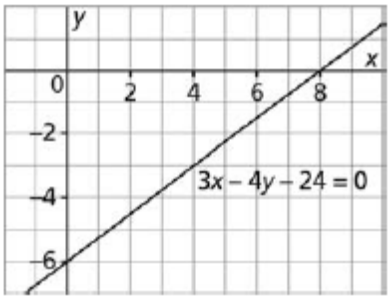
ii) $x + 3y - 12 = 0$

iii) $x - 3y + 10 = 0$

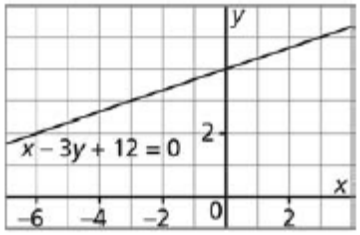
iv) $x - 5y + 15 = 0$

21. a)

i)

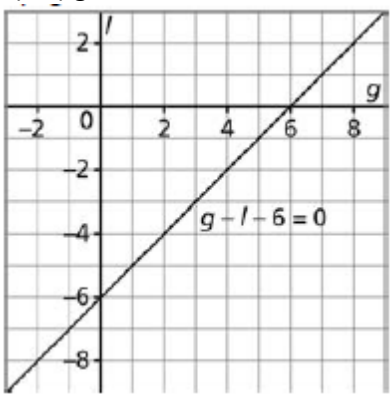


ii)



b) i) $\frac{3}{4}$ ii) $\frac{1}{3}$

22. a), b) $g - l - 6 = 0$



c) Pairs of integers may vary. For example: 8 and 2; 7 and 1; 6 and 0; 5 and –1; 4 and –2

23. Equations in parts a and d are equivalent. Equations in parts b and e are equivalent.

24. a) Graph B
    b) Graph C
    c) Graph A

25. Variables may differ. Let a represent the number of hours Max babysits for the first family, and b represent the number of hours he babysits for the second family.
    a), b) $5a + 4b = 60$