

Construct a linear function to model a situation

NAME	DATE	SCORE / 10
------	------	------------

- 1** A gift card has \$55 on it, and Ana spends \$3 from it each week. Write an equation for the dollars y left on the card after x weeks. Give your answer in the form $y = mx + b$.

- 2** A gym costs \$25 to join plus \$4 for each month. Which function gives the total cost C , in dollars, after m months?

☐ $C = 29m$
☐ $C = 4(m + 25)$
☐ $C = 4m + 25$
☐ $C = 25m + 4$

- 3** A tank has 160 litres of water in it, and water is added at 15 litres each minute. Write an equation for the litres of water y in the tank after x minutes. Give your answer in the form $y = mx + b$.

- 4** A plant is 15 cm tall and grows 5 cm each week. Which function gives its height H , in cm, after w weeks?

☐ $H = 15w + 5$
☐ $H = 5w + 15$
☐ $H = 5(w + 15)$
☐ $H = 20w$

- 5** A candle burns down the same amount each hour. It is 17 cm tall after 4 hours and 13 cm tall after 8 hours. Write an equation for the candle's height y , in cm, after x hours. Give your answer in the form $y = mx + b$.

- 6** A tank holds 45 litres of water and is filled with 3 more litres each minute. Which function gives the water W , in litres, after m minutes?

☐ $W = 45m + 3$ ☐ $W = 3(m + 45)$ ☐ $W = 48m$ ☐ $W = 3m + 45$

- 7** A plant grows the same amount each week. It is 7 cm tall after 2 weeks and 11 cm tall after 6 weeks. Write an equation for the plant's height y , in cm, after x weeks. Give your answer in the form $y = mx + b$.

- 8** A tank holds 40 litres of water and is filled with 3 more litres each minute. Which function gives the water W , in litres, after m minutes?

☐ $W = 3(m + 40)$ ☐ $W = 43m$ ☐ $W = 3m + 40$ ☐ $W = 40m + 3$

- 9** A taxi ride of 2 kilometres costs \$7, and a ride of 6 kilometres costs \$15. The cost goes up the same amount for each kilometre. Write an equation for the cost y , in dollars, of a ride of x kilometres. Give your answer in the form $y = mx + b$.

- 10** A tank holds 15 litres of water and is filled with 4 more litres each minute. Which function gives the water W , in litres, after m minutes?

☐ $W = 4(m + 15)$ ☐ $W = 19m$ ☐ $W = 4m + 15$ ☐ $W = 15m + 4$

Construct a linear function to model a situation

1 $y = -3x + 55$

3 $y = 15x + 160$

5 $y = -x + 21$

7 $y = x + 5$

9 $y = 2x + 3$

2 $C = 4m + 25$

4 $H = 5w + 15$

6 $W = 3m + 45$

8 $W = 3m + 40$

10 $W = 4m + 15$