

Construct a linear function to model a situation

NAME	DATE	SCORE / 10
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- 1** A gift card has \$60 on it, and Ben spends \$9 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 plant is 45 cm tall and grows 7 cm each week. Which function gives its height H , in cm, after w weeks?

☐ $H = 45w + 7$
 ☐ $H = 7w + 45$
 ☐ $H = 7(w + 45)$
 ☐ $H = 52w$

- 3** A taxi ride of 1 kilometres costs \$5, and a ride of 5 kilometres costs \$13. 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 $y = mx + b$.

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

☐ $W = 6m + 45$
 ☐ $W = 6(m + 45)$
 ☐ $W = 51m$
 ☐ $W = 45m + 6$

- 5** A candle burns down the same amount each hour. It is 22 cm tall after 3 hours and 19 cm tall after 6 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 gym costs \$35 to join plus \$8 for each month. Which function gives the total cost C , in dollars, after m months?

☐ $C = 8m + 35$ ☐ $C = 43m$ ☐ $C = 35m + 8$ ☐ $C = 8(m + 35)$

- 7** A plant grows the same amount each week. It is 9 cm tall after 4 weeks and 10 cm tall after 5 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 plant is 45 cm tall and grows 4 cm each week. Which function gives its height H , in cm, after w weeks?

☐ $H = 4w + 45$ ☐ $H = 4(w + 45)$ ☐ $H = 49w$ ☐ $H = 45w + 4$

- 9** Ana has \$75 and saves \$6 each week. Write an equation for the dollars y that Ana has after x weeks. Give your answer in the form $y = mx + b$.

- 10** A plant is 10 cm tall and grows 2 cm each week. Which function gives its height H , in cm, after w weeks?

☐ $H = 12w$ ☐ $H = 2(w + 10)$ ☐ $H = 10w + 2$ ☐ $H = 2w + 10$

Construct a linear function to model a situation

1 $y = -9x + 60$

3 $y = 2x + 3$

5 $y = -x + 25$

7 $y = x + 5$

9 $y = 6x + 75$

2 $H = 7w + 45$

4 $W = 6m + 45$

6 $C = 8m + 35$

8 $H = 4w + 45$

10 $H = 2w + 10$