

Name:

Date:

Chapter 1 Review

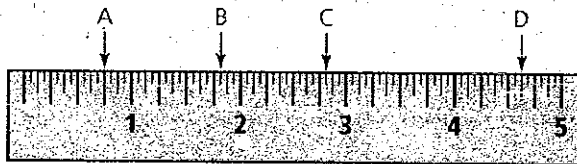
1. What referent would you use to estimate each of the following measurements in SI units (mm,cm,etc)?

- a) the height of the classroom door _____
- b) the thickness of your calculator _____
- c) the distance from home to school _____

2. Convert each of the following measurements.

- a) 7 cm = _____ mm
- b) 32 m = _____ cm
- c) 58 km = _____ m
- d) 75 km = _____ cm
- e) 65 000 cm = _____ km
- f) 56 m = _____ km

3. What reading is shown on the imperial ruler below at points A, B, C, and D?



A: _____ B: _____ C: _____ D: _____

4. Convert each measurement to the unit indicated.

- a) 72 inches = _____ feet
- b) 3 miles = _____ feet
- c) 5' 10" = _____ inches
- d) 4400 yards = _____ miles
- e) 500 inches = _____ feet and _____ inches

5. The Longs travelled, from Lethbridge, AB, to Great Falls, Montana, to visit friends. The distance from Lethbridge to the Canada-U.S. border is 130 km. The distance, from the border to Great Falls, is 114 miles. Calculate the total distance for the round trip, in both miles and kilometres.

Answers: 1. a) m b) cm c) km

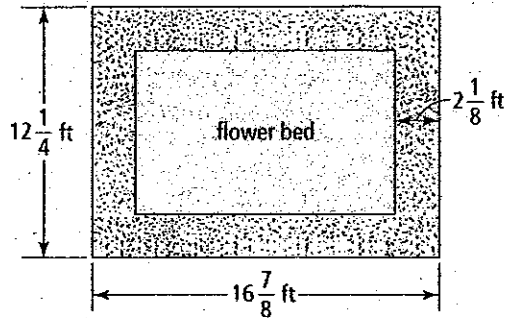
2. a) 70mm b) 3200cm c) 58000m d) 7,500,000cm e) 0.65km f) 0.056km

3. A: $\frac{3}{4}$ in B: $1\frac{1}{16}$ in C: $2\frac{13}{16}$ in D: $4\frac{5}{8}$ in

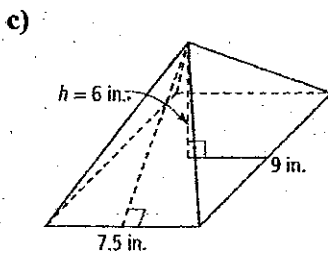
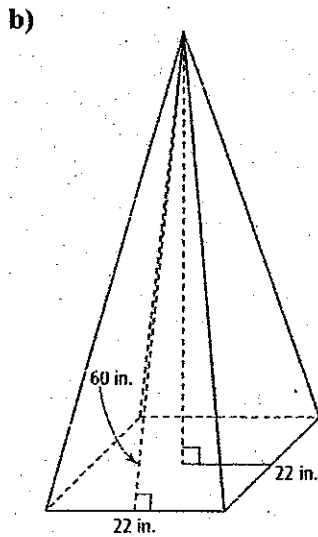
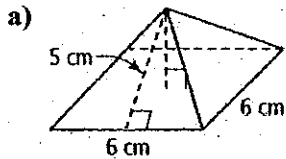
4. a) 6ft b) 15,840ft c) 70in d) 2.5mi e) 41ft 8 in

5. 627km=390mi

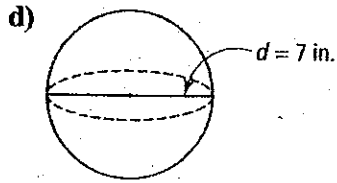
6. A rectangular flower bed has a border of grass that is $2\frac{1}{8}$ ft wide. The outside dimensions of the grass are $12\frac{1}{4}$ ft by $16\frac{7}{8}$ ft. Calculate the dimensions of the flower bed in inches and in centimetres.



7. Determine the surface area of each 3-D object. Round the answer to the nearest tenth of a square unit.

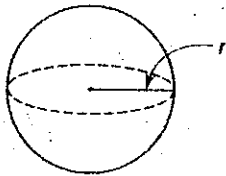


Answers: 6. 96in by 151.5in and 244cm by 385cm 7. a) 96 b) 3124 c)187.4 d)153.9

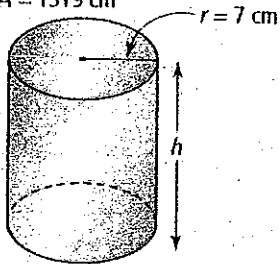


8) The surface area is given for each 3-D object. To the nearest tenth of a square unit, determine the missing dimension.

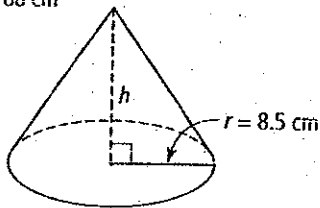
a) $SA = 5025 \text{ mm}^2$



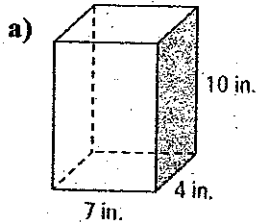
b) $SA = 1319 \text{ cm}^2$



c) $SA = 1188 \text{ cm}^2$



9) Determine the volume of each 3-D object. Round each answer to the nearest tenth of a cubic unit.



Answers: 8. a) 20.0 mm b) 23.0 cm c) 35.0 cm

9. a) 280 b) 3000

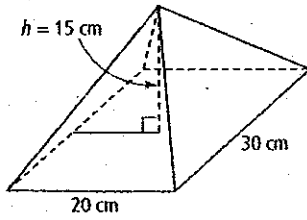
c) 114.5

d) 508.9

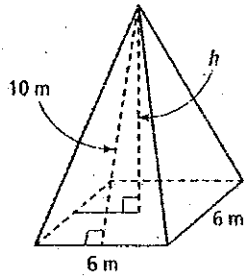
e) 1026.3

10. a) 1.5 m b) 0.75 ft

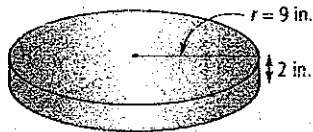
b)



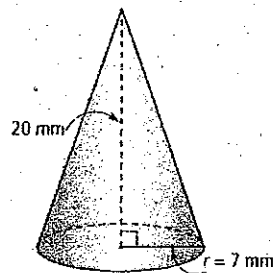
c)



d)



e)



10) Draw and label a diagram of each shape, then calculate the missing dimension.

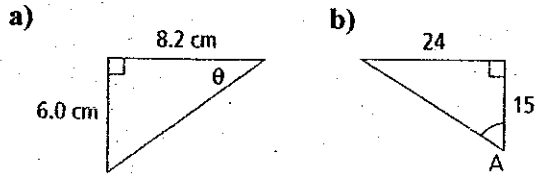
a) A cylinder has a volume of 3 m^3 and a radius of 0.8 m . What is the height of the cylinder?

b) A cone has a height of 3 ft and a volume of 1.77 ft^3 . Determine its radius.

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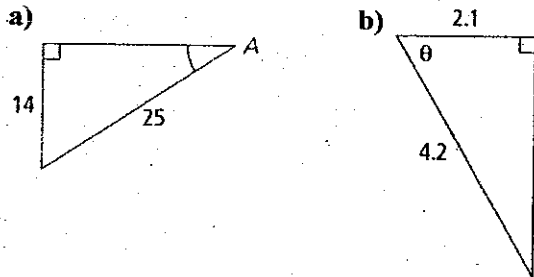
Chapter 2 Review

1. Determine the value of each variable, to the nearest degree.



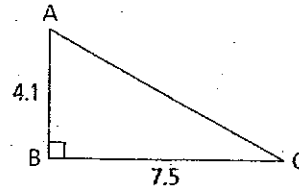
2. Mary wishes to determine the height of the tree in her yard. She measures the angle of elevation to the top of the tree to be 25° at a point 20 m from the base of the tree. How tall is the tree, to the nearest tenth of a metre?

3. Determine the measure of each indicated angle. Express your answer to the nearest degree.



4. Bill is renovating his house. He braces a wall with an 8-ft wall brace, as shown. The distance from the wall to the lower end of the brace (on the floor) is 2.4 ft. Calculate the angle at which the brace meets the wall. Express your answer to the nearest degree.

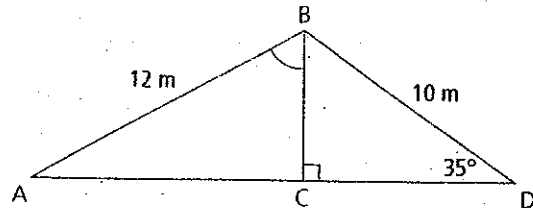
5. Solve the triangle. Express your answer to one decimal place.



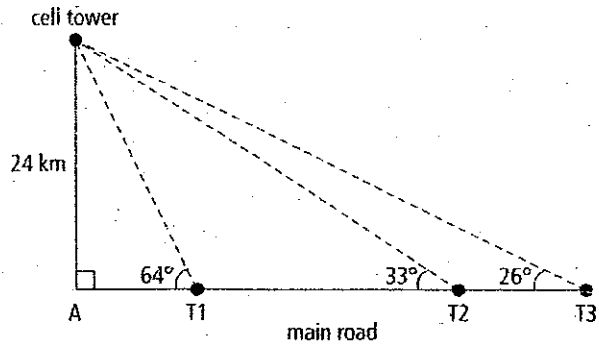
6. a) In $\triangle ABC$, $\angle A = 90^\circ$, $BC = 11.5$ cm, and $AB = 2.7$ cm. Determine the measure of $\angle B$, to the nearest degree.

- b) In $\triangle DEF$, $\angle D = 90^\circ$, $DE = 1.6$ cm, and $\angle E = 42^\circ$. Determine the measure of EF , to the nearest tenth of a centimetre.

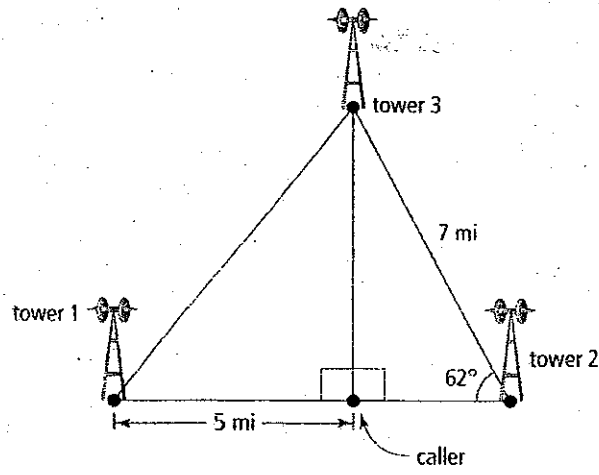
7. Calculate the measure of $\angle ABC$, to the nearest degree.



8. A satellite radio cell tower provides signals to three substations, T1, T2, and T3. The three substations are each located along a stretch of the main road. The cell tower is located 24 km down a road perpendicular to the main road. A surveyor calculates the angle from T1 to the cell tower to be 64° , from T2 to the cell tower to be 33° , and from T3 to the cell tower to be 26° . Calculate the distance of each substation from the intersection of the two roads. Express your answers to the nearest tenth of a kilometre.



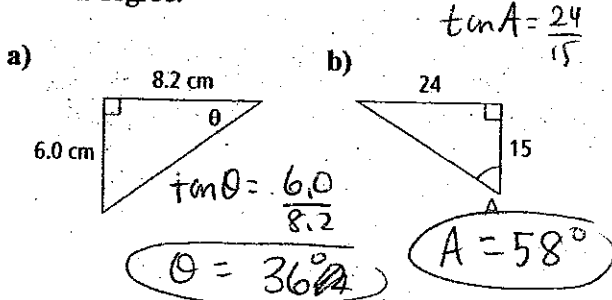
9. A cell phone can be used to send music, but as your location changes, you move in and out of range from one *cell* to the next. Three or more cellular towers may pick up a cell phone's signal. A cell phone signal has been located 5 mi from tower 1.



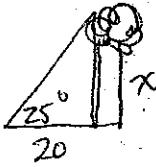
- a) What is the distance from the caller to tower 3?
- b) How far is tower 1 from tower 3?

Chapter 2 Review

1. Determine the value of each variable, to the nearest degree.

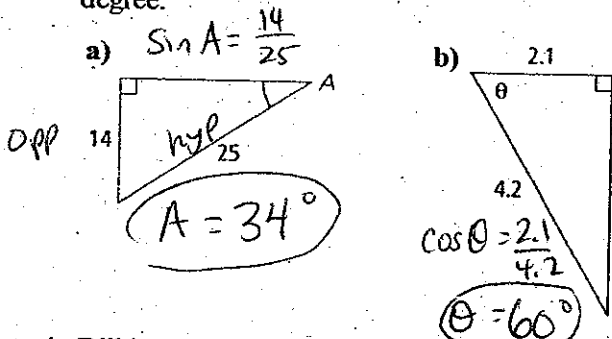


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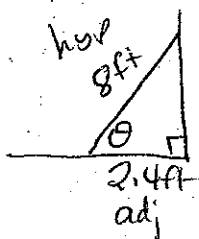


$\tan 25 = \frac{x}{20}$ $x = 9.3 \text{ m}$

3. Determine the measure of each indicated angle. Express your answer to the nearest degree.



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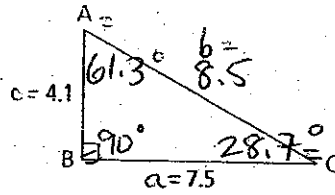


$\cos \theta = \frac{2.4}{8}$

$\theta = 72.54$

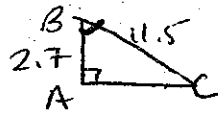
The angle is 73° .

5. Solve the triangle. Express your answer to one decimal place.



$\tan(\angle C) = \frac{4.1}{7.5}$
 $\angle C = 28.7^\circ$
 $\angle A = 90^\circ - 28.7^\circ$
P-H-Mop.
 $b = 8.5$

6. a) In $\triangle ABC$, $\angle A = 90^\circ$, $BC = 11.5$ cm, and $AB = 2.7$ cm. Determine the measure of $\angle B$, to the nearest degree.

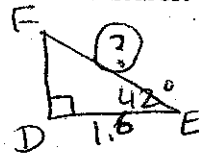


$\cos B = \frac{2.7}{11.5}$

$B = 76.42$

$\angle B = 76^\circ$

- b) In $\triangle DEF$, $\angle D = 90^\circ$, $DE = 1.6$ cm, and $\angle E = 42^\circ$. Determine the measure of EF , to the nearest tenth of a centimetre.

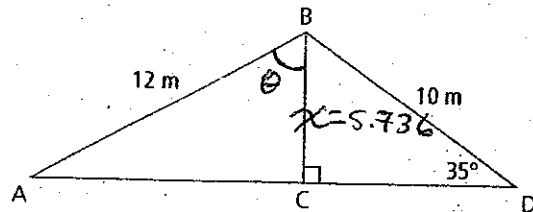


$EF = d$

$\cos 42^\circ = \frac{1.6}{d}$

$d = 2.2 \text{ cm}$

7. Calculate the measure of $\angle ABC$, to the nearest degree. Need BC first!



$\angle ABC:$
 $\cos \theta = \frac{5.736}{12}$

$\sin 35^\circ = \frac{x}{10}$

$x = 5.736$

$\theta = 61.4^\circ$

$\theta = 61^\circ$

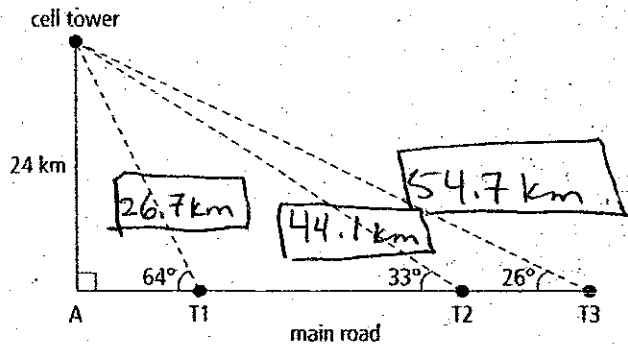
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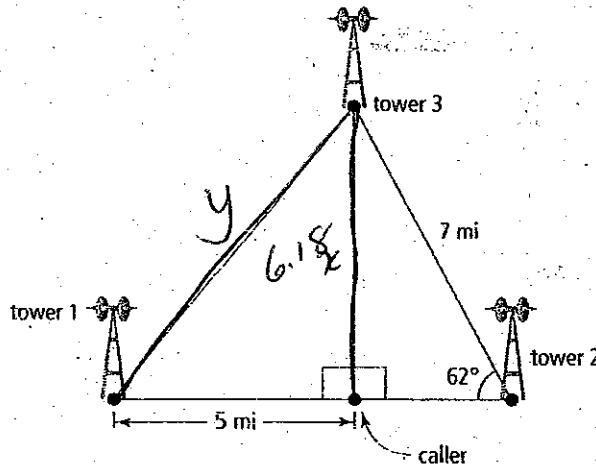
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8. A satellite radio cell tower provides signals to three substations, T1, T2, and T3. The three substations are each located along a stretch of the main road. The cell tower is located 24 km down a road perpendicular to the main road. A surveyor calculates the angle from T1 to the cell tower to be 64° , from T2 to the cell tower to be 33° , and from T3 to the cell tower to be 26° . Calculate the distance of each substation from the intersection of the two roads. Express your answers to the nearest tenth of a kilometre.

(T1)
 $\sin 64^\circ = \frac{24}{x}$
 $x = \frac{24}{\sin 64}$
 $x = 26.7 \text{ km}$



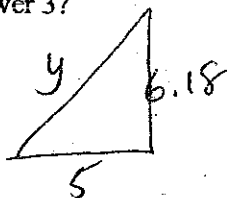
9. A cell phone can be used to send music, but as your location changes, you move in and out of range from one cell to the next. Three or more cellular towers may pick up a cell phone's signal. A cell phone signal has been located 5 mi from tower 1.



- a) What is the distance from the caller to tower 3?

$\sin 62^\circ = \frac{x}{7}$ $x = 6.18 \text{ mi}$

- b) How far is tower 1 from tower 3?



$5^2 + 6.18^2 = y^2$
 $63.19 = y^2$
 $y = 7.95 \text{ mi}$

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Chapter 3 Review

Match and Decipher

Cut out each puzzle piece. Arrange the pieces to make a 4-by-4 square.

The expressions on adjacent sides must be equal.

Follow the instructions that are revealed when you complete the puzzle.

$(4x - 7)(4x + 7)$ A $(-2x)(2x + 1)$	$x^2 - 10x + 25$ A $(-4x)(x - 2)$	$-4x^2 - 2x$ B $6x + 12$	$3(x - 2)$ D $(1 + x)(1 - x)$
$(2x - 3)(2x + 3)$ H $(x + 3)(x + 4)$	$(x + 4)(x - 2)$ H $16x^2 - 49$	$6(x + 2)$ H $x^2 - 1$	
$3x^2 + 8x + 4$ I $3x - 6$	$(9 - x + x^2)$ M $(3x - 4)^2$	$-15x^2 - 20x$ P $(3x + 2)(x + 2)$	
$9x^2 - 24x + 16$ P $(x - 4)(x + 1)$	$x^2 - 3x - 4$ R $(x - 5)(x - 5)$	$3x^2 + 3x$ T $(x + 3)(x + 1)$	
$x^2 + 2x + 8$ U $(-5x)(3x + 4)$	$x^2 + 4x + 3$ Y	$x^2 + 7x + 12$ Y $3x(x + 1)$	

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Chapter 4 Review

How Irrational Is It?

The radical $\sqrt{26}$ and the power $2^{\frac{3}{2}}$ went to a bank to apply for credit cards.

"I'm sorry," said the bank manager, "You may not have credit cards."

"Why not?," asked the radical and power, "Is it because we are irrational?"

Why did the bank manager not give them credit cards?

To find out, evaluate or simplify each expression below.

Then, write the matching letter above the matching answer on the underline below.

$$\sqrt[3]{-8} = \underline{\hspace{2cm}} = U$$

$$4^{\frac{3}{2}} = \underline{\hspace{2cm}} = E$$

$$2^{\frac{1}{2}} = \underline{\hspace{2cm}} = H$$

$$5^{-3} = \underline{\hspace{2cm}} = Y$$

$$3^{\frac{2}{3}} = \underline{\hspace{2cm}} = A$$

$$\left(\frac{3}{4}\right)^{-2} = \underline{\hspace{2cm}} = N$$

$$2^{-5} \cdot 2^4 = \underline{\hspace{2cm}} = R$$

$$\frac{5^{-3} \cdot 5^4}{5^{-2}} = \underline{\hspace{2cm}} = I$$

$$\left(4^{\frac{2}{3}}\right)^3 = \underline{\hspace{2cm}} = G$$

$$7^{\frac{1}{2}} \cdot 7^{\frac{1}{4}} = \underline{\hspace{2cm}} = T$$

$$\left(2^{\frac{1}{3}} \cdot 2^{\frac{1}{2}}\right)^6 = \underline{\hspace{2cm}} = D$$

$$\sqrt[4]{7^3} \quad \sqrt{2} \quad \bar{8} \quad \frac{1}{125} \quad \sqrt[3]{9} \quad \frac{1}{2} \quad \bar{8} \quad \bar{-2} \quad \frac{16}{9} \quad \bar{32} \quad \bar{8} \quad \frac{1}{2}$$

$$\bar{8} \quad \bar{125} \quad \bar{16} \quad \sqrt{2} \quad \sqrt[4]{7^3} \quad \bar{8} \quad \bar{8} \quad \frac{16}{9}$$

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Chapter 5 Review

Mystery Picture

What is the title of this picture?

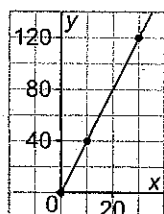


Use these functions:

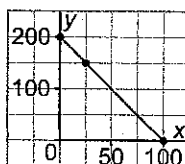
Function A: $y = 2x + 5$

Function B: $y = -3x - 12$

Function C:



Function D:



Find each value below.

1. The x -intercept of Function D:
2. The rate of change of Function C:
3. The range of Function D: $0 \leq y \leq$ _____
4. The value of Function C when $x = 30$:
5. The y -intercept of Function B:
6. The rate of change of Function D:
7. The x -intercept of Function B:
8. The value of Function D when $x = 75$:
9. The value of Function A when $x = -1$:
10. The x -intercept of Function C:
11. The y -intercept of Function A:
12. In Function C, the value of x when y is 80:

Code Value

Code Letter

P

N

E

S

G

I

O

D

A

R

W

F

To find the title of the picture, write the code letter that corresponds to each code value.

Picture Title:

-12	-2	0	3	20	20	200

100	3	120	120	-2	4	-12

3

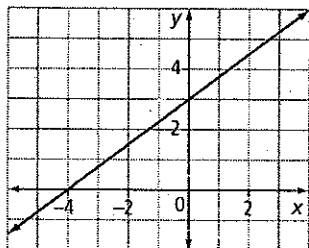
5	-2	4	50	-4	5

Chapter 6 Extra-Practice Quiz

Multiple Choice

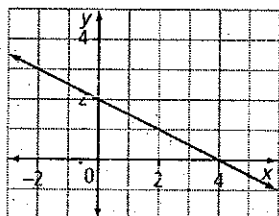
For #1 to 5, select the best answer.

1. Which of the statements is true for the graph shown?



- A The slope is $-\frac{3}{4}$.
- B The intercepts are at -4 and 3 .
- C The x -intercept is at $(-4, 0)$.
- D The y -intercept is at $(3, 0)$.

2. Which of the statements is true for the graph shown?



- A The domain is $\{x \mid x \geq 4, x \in \mathbb{R}\}$.
- B The range is $\{y \mid y \leq 4, y \in \mathbb{R}\}$.
- C The domain and range are both $[2, 4]$.
- D The domain and range are both (∞, ∞) .

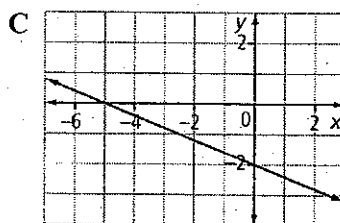
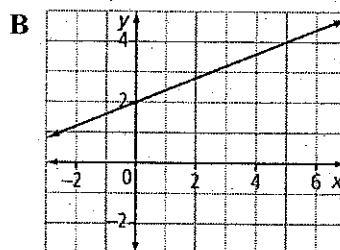
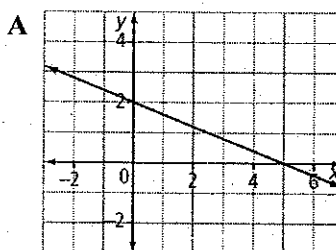
3. To rewrite the equation $-2x + 2y = 5$ in the form $y = mx + b$, a possible approach could be

- A subtract $2x$ from both sides and then divide both sides by 2
- B add $2x$ to both sides and then divide both sides by 2
- C add $-2x$ to both sides and then multiply both sides by 2
- D subtract $2x$ from both sides and then multiply both sides by 2

4. Which equation represents a linear relation that has an infinite number of intercepts?

- A $y = x$
- B $y = 2$
- C $y = 0$
- D $y = x - 1$

5. Which graph shows a line with a slope of $-\frac{2}{5}$ and a y -intercept of 2 ?

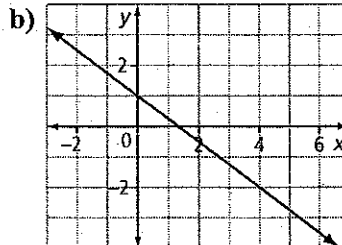
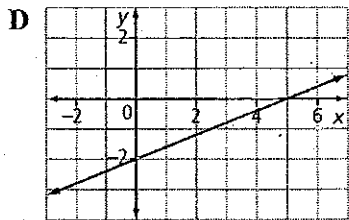


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BLM 7-11

(continued)



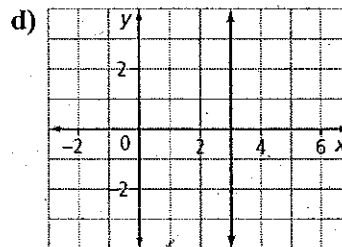
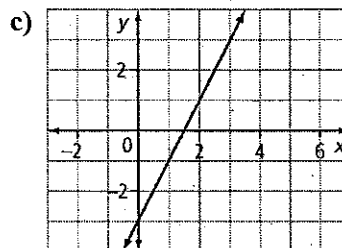
Short Answer

Complete the statements in #6 to #8.

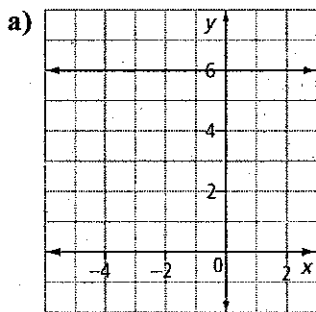
6. The x -intercept of the graph of $5x - 3y - 15 = 0$ is .

7. The slope of the graph of the relation $x = \frac{1}{5}y + 2$ is .

8. The y -intercept of the graph of the line $y - 3 = \frac{1}{2}(x + 10)$ is .



9. Identify the slope and y -intercept of each line.



10. Identify the slope of a line parallel to each given line.

a) $y = \frac{11}{3}x + 9$

b) $4x + 6y = 20$

11. Identify the slope of a line perpendicular to each given line.

a) $y = 2x - 4$

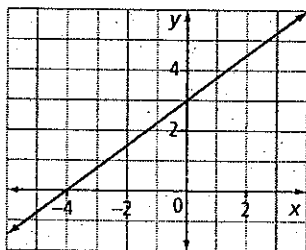
b) $3x + 5y = 35$

Chapter 6 Extra-Practice Quiz

Multiple Choice

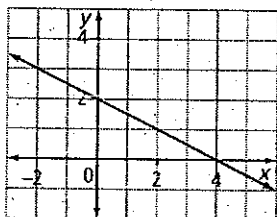
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- B The intercepts are at -4 and 3 .
- C The x -intercept is at $(-4, 0)$.
- D The y -intercept is at $(3, 0)$.

2. Which of the statements is true for the graph shown?



- A The domain is $\{x \mid x \geq 4, x \in \mathbb{R}\}$.
- B The range is $\{y \mid y \leq 4, y \in \mathbb{R}\}$.
- C The domain and range are both $[2, 4]$.
- D The domain and range are both (∞, ∞) .

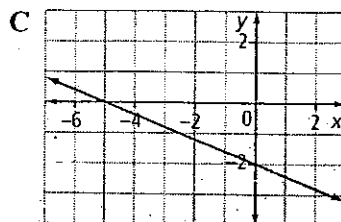
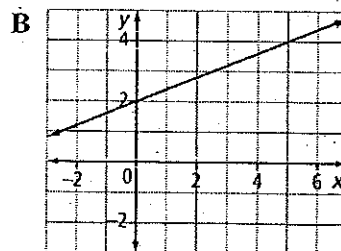
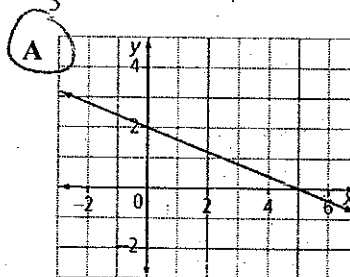
3. To rewrite the equation $-2x + 2y = 5$ in the form $y = mx + b$, a possible approach could be

- A subtract $2x$ from both sides and then divide both sides by 2
- B add $2x$ to both sides and then divide both sides by 2
- C add $-2x$ to both sides and then multiply both sides by 2
- D subtract $2x$ from both sides and then multiply both sides by 2

4. Which equation represents a linear relation that has an infinite number of intercepts?

- A $y = x$ B $y = 2$
- C $y = 0$ D $y = x - 1$

5. Which graph shows a line with a slope of $-\frac{2}{5}$ and a y -intercept of 2 ?

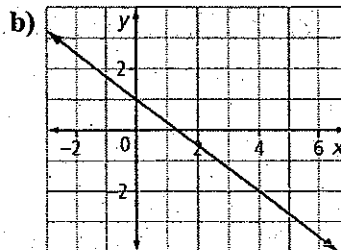
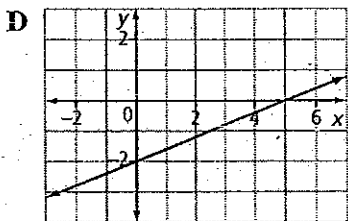


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BLM 7-11
(continued)



$m = -\frac{3}{4}$

$b = 1$

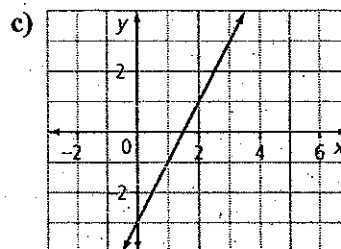
Short Answer

Complete the statements in #6 to #8.

6. The x-intercept of the graph of $5x - 3y - 15 = 0$ is \square . **3**

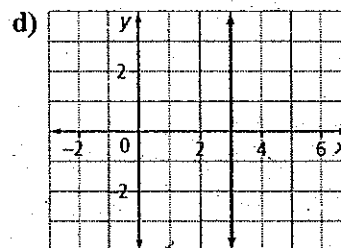
7. The slope of the graph of the relation $x = \frac{1}{5}y + 2$ is \square . **5**

8. The y-intercept of the graph of the line $y - 3 = \frac{1}{2}(x + 10)$ is \square . **8**



$m = 2$ ($\frac{2}{1}$)

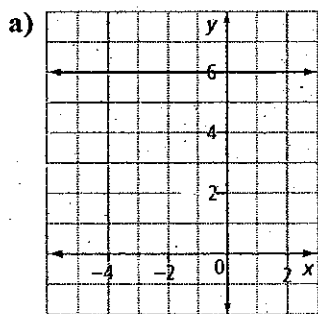
$b = -3$



$m = \text{undefined}$

$b = \text{none}$

9. Identify the slope and y-intercept of each line.



$m = 0$
 $y\text{ int} = 6$

10. Identify the slope of a line parallel to each given line.

a) $y = \frac{11}{3}x + 9$

$\frac{11}{3}$

b) $4x + 6y = 20$
 $-\frac{4}{6} = -\frac{2}{3}$

11. Identify the slope of a line perpendicular to each given line.

a) $y = 2x - 4$ a) $-\frac{1}{2}$

b) $3x + 5y = 35$
 $-\frac{3}{5} \rightarrow$ b) $\frac{5}{3}$

Name: _____

Date: _____

Chapter 7 Review

Dancing Variables

Contestants x and y entered a dance contest.

Why was y disappointed with his results?

To find out:

On a separate sheet of paper, determine the solution of each linear system.

Match each system to its solution at the right. Write the corresponding letter above the question number in the answer below.

Question	System
1	$x + y = 3$ $x - y = 1$
2	$3x + y = 1$ $6x - 2y = -2$
3	$2x - y = -3$ $x + y = 0$
4	$2x + y = -6$ $x + y = -4$
5	$2x + y = 4$ $x + y = 4$
6	$2x - y = 6$ $-x - y = -12$
7	$8x - 4y = 4$ $-5x + y = 2$
8	$-x - y = -3$ $2x + y = 6$
9	$-2x - y = 9$ $x + y = -5$
10	$-5x + y = -4$ $6x - 2y = 4$
11	$-4x + y = -10$ $-x + y = -1$

Solution	Letter
$x = -2; y = -2$	M
$x = 6; y = 6$	W
$x = -1; y = -3$	A
$x = 0; y = 4$	E
$x = 0; y = 1$	L
$x = -4; y = -1$	I
$x = 2; y = 1$	H
$x = -1; y = 1$	N
$x = 1; y = 1$	T
$x = 3; y = 2$	D
$x = 3; y = 0$	S

Answer:

1	5	6	7	8	5	2	9	4	9	3	7	10	5	11