

Name _____ Date _____

Part 1

Solve.

1. $3.25 + 7.8$ _____

2. $5.78 \cdot 5$ _____

3. $\frac{2}{3} + \frac{5}{8}$ _____

4. $\frac{4}{9} - \frac{1}{3}$ _____

5. $-17 - 59$ _____

6. $21.7 \div 0.7$ _____

7. $-8 \cdot -9$ _____

8. $-\frac{5}{6} \cdot -\frac{2}{3}$ _____

Part 2

Select the general pattern that matches the group of specific cases.

9. $5 \cdot 0 = 0$

$-3 \cdot 0 = 0$

$\frac{1}{2} \cdot 0 = 0$

The general pattern is _____.

(a) $m \cdot 0 = m$

(b) $m \cdot 0 = 0$

(c) $5 \cdot m = m$

10. $3 + 7 = 7 + 3$

$\frac{1}{5} + \frac{1}{2} = \frac{1}{2} + \frac{1}{5}$

$-5 + -7 = -7 + -5$

The general pattern is _____.

(a) $c + d = d + c$

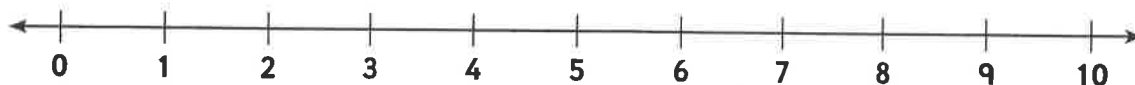
(b) $3 + d = d + 3$

(c) $-c + d = c + -d$

Part 3

Answer the questions about inequalities.

11. Show the inequality $x \geq 5$ on the number line.

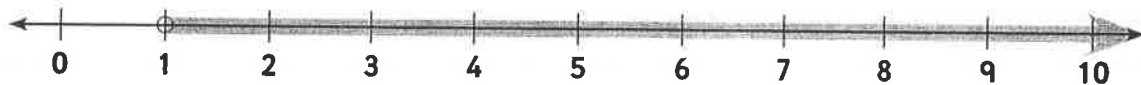


12. Show the double inequality $2 < y < 9$ on the number line.



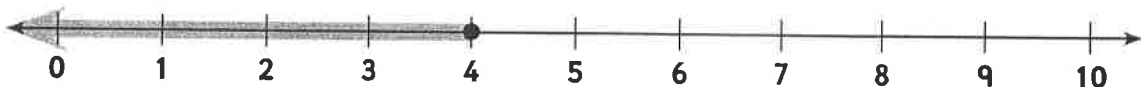
13. Write the equality shown on the number line using the variable w .

The inequality is _____.



14. Write the equality shown on the number line using the variable z .

The inequality is _____.



Part 4

Solve using order of operations.

15. $3 + (2 - 1) - -2 \cdot 9$ _____

16. $5 \cdot 3 + 7 - 8 \div 2$ _____

17. $5^2 - (3 + -7) \cdot -2$ _____

Part 5

Use properties to solve.

18. $3x + 7 + -2x = 10 + 2x - 9$ $x =$ _____

19. $4(y + 2) = 3y + 7$ $y =$ _____

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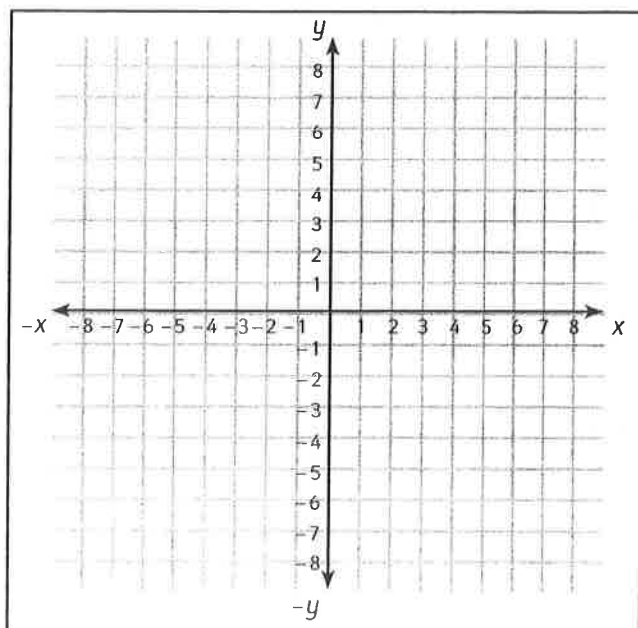
Part 6

Answer the questions about functions.

20. Complete the x/y table for the function $y = 2x + 1$.

x	y
-2	
-1	
0	
1	
2	

21. Graph the function $y = 2x + 1$.



22. Tell the rule for the function. _____

Input	Output
2	4
3	6
-2	-4
-1	-2

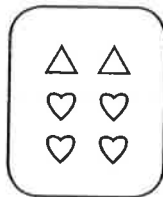
23. Which of the word problems is solved by $y = 3x$? _____
- (a) $m \cdot 0 = m$
 - (b) What is the population of my town if it is 3 times larger than your town?
 - (c) How many cookies did you sell if you sold 3 more boxes than anyone else?

Part 7

Answer the questions about proportions, rates, and ratios.

24. What two cards show a proportional relationship? _____

(a)



(b)



(c)

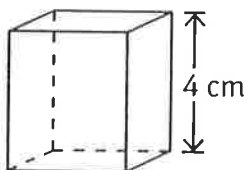


25. Select the correct proportion and equation for solving this problem:
If soup at the grocery store costs \$4.00 for 8 cans, what is the price for just one can of soup? _____
- (a) $\frac{4}{8} = \frac{x}{1} \rightarrow 4 = 8x$ (b) $\frac{4}{8} = \frac{1}{x} \rightarrow 4x = 8$ (c) $\frac{1}{4} = \frac{8}{x} \rightarrow x = 32$
26. There are 17 girls in Mrs. Tobin's class. There are a total of 28 students in the class. What is the ratio of boys to girls? _____

Part 8

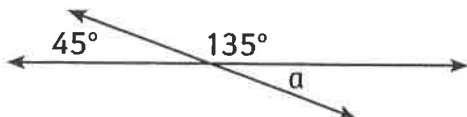
Answer the questions about geometry and measurement.

27. Compute the volume of the cube. _____



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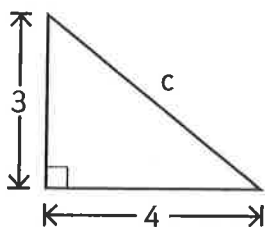
28. In the diagram, what is the measure of angle a ? _____



29. What number is closest to $\sqrt{37}$? _____

(a) 35 (b) 6 (c) 3.7

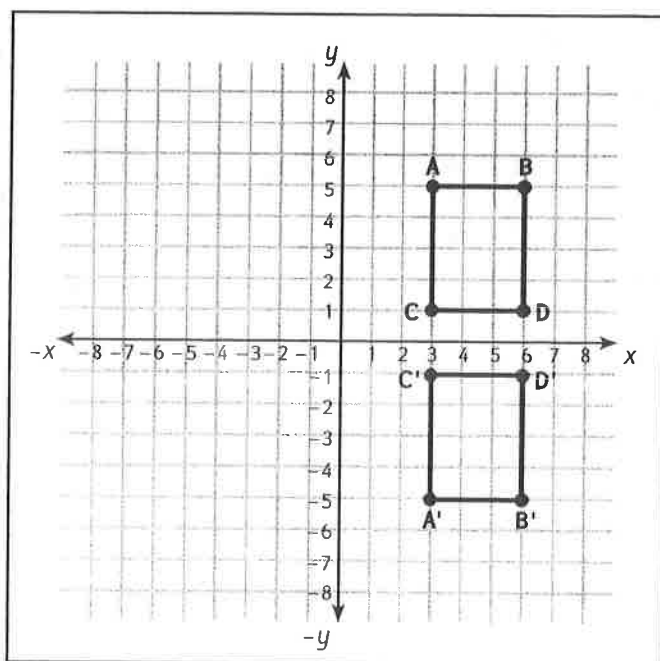
30. Use the Pythagorean theorem to find the measure of side c . _____



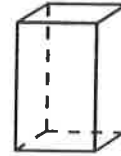
31. Rectangle ABCD has been reflected over the x -axis. What are the coordinates of the vertices of the image?

$A' =$ _____ $B' =$ _____

$C' =$ _____ $D' =$ _____



32. How many faces does a rectangular prism have? _____



33. The surface area of a shape is _____.

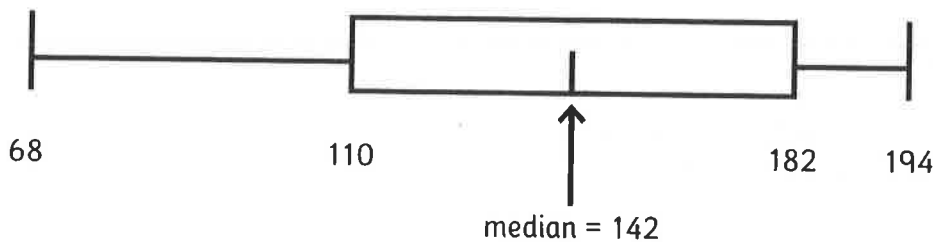
- (a) the length times the width
- (b) the same as the volume
- (c) the sum of the areas of the faces

Part 9

Answer the questions about data and statistics.

34. What is the minimum of the box-and-whisker plot? _____

What is the maximum? _____



35. The relationship shown in this graph is called an indirect relationship because _____

- (a) as one variable increases (driving speed), the other variable decreases (time to get there).
- (b) as one variable increases (driving speed), the other variable stays the same (time to get there).
- (c) as one variable decreases (driving speed), the other variable decreases (time to get there).

