1) Evaluate each of the following.

a) $-\frac{3}{5}+\frac{9}{10}$

b) $-1\frac{5}{8}-2\frac{3}{4}$

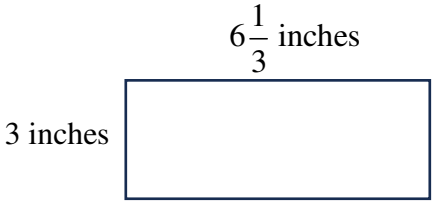
c) $\left(\frac{3}{4}\right)\left(-2\frac{5}{6}\right)$

d) $\left(-\frac{4}{7}\right)\div\left(-\frac{5}{9}\right)$

2) A baker uses $3\frac{1}{3}$ cups of flour to make 5 batches of cookies. If another baker only wants to make one batch, how much flour should they use?

3) There were initially $24\frac{1}{2}$ crates of tomatoes in the barn, but $7\frac{3}{5}$ crates of tomatoes were rotten and had to be thrown out. Joe sold $11\frac{1}{3}$ crates of tomatoes. How many crates of tomatoes remained? Express your answer as a mixed number.

4) Determine the area of the rectangle. Show your work.



5) Use a checkmark (✓) to identify each of the following statements as either true or false.

	TRUE	FALSE
$-3x+2x$ is equal to $-5x$.		
The expression $(-2x+7)-(3x-1)$ is equal to $-2x+7-3x+1$.		
$11x^4y^5$ and $-4x^5y^4$ are like terms.		
$5x^2$ is equal to $25x$.		
To solve the equation $2x=8$, we need to divide both sides by 2.		
$x=-3$ is the solution to $x+6=3$.		

6) Fatima claims that $6x+2$ is equal to $8x$. Is Fatima's claim correct? Explain.

7) Simplify each expression by collecting like terms.

a) $-9x+5x+6-3$

b) $3x-10-(-2x)+3$

c) $-8x^2+6x-4x+3x^2$

d) $2x^2+9x-11-4x^2+11x+17$

e) $x+6y-9-3x+2y-3$

8) Simplify each expression.

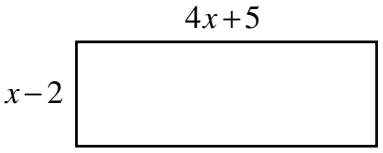
a) $(2x+1)+(x+4)$

b) $(7x+4)-(3x-9)$

c) $(x^2+5x-7)+(-3x^2-4x+9)$

d) $(9x^2+2x+6)-(-3x^2+5x-4)$

9) Determine a simplified expression that represents the perimeter of the rectangle shown below.



10) Solve each equation (determine the value of x). Show your work.

a) $x+6=2$

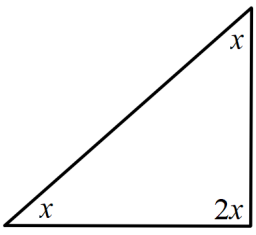
b) $x-9=-15$

c) $3x=-27$

d) $3x-5x=-12+4$

e) $18-3=-2x-x$

11) The sum of the three angles in triangle is 180º. Determine the value of x in the following triangle.



12) Maya used Python to write a program for calculating the circumference of a circle based on the diameter value entered by the user. Her code is shown below.

```
1  import math
2
3  # Read value for diameter from user.
4  diameter=float(input("Enter the diameter in metres: "))
5
6  # Calculate the circumference of the circle.
7  circumference=math.pi*diameter
8
9  # Round the circumference to one decimal place.
10 rounded=round(circumference,1)
11
12 # Print the circumference of the circle.
13 print("The circumference is",rounded,"metres.")
```

a) How many variables does Maya's program use?

b) What is the purpose of the word **`float`** in line #4?

c) Explain why the code in line #1 is necessary.

d) What will the program's output be if the user enters a diameter value of 5?