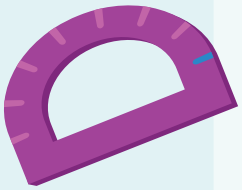
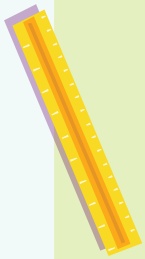
Learning Outcome:
Apply the properties of operations (commutative, associative, and distributive without names) to generate equivalent expressions in algebra by combining the terms in the expressions (using only factoring of numbers for division).
6.EE.A.3

1 Evaluate the following numerical expressions and write the answer in the boxes given below.



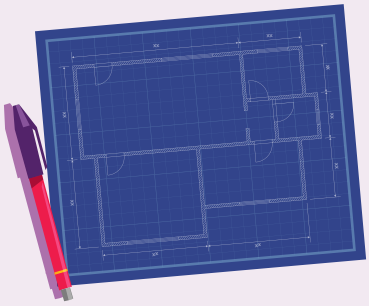
a) $(15 + 10) \times \frac{4}{5}$ ☐ b) $(\frac{3}{10} - \frac{1}{5}) \times 10$ ☐



2 Which of the following expressions are similar in nature? Check the box that corresponds to the correct answer.

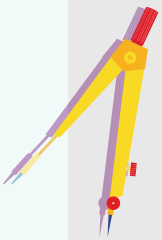
- ☐ a) Expression 1: 20 + (12 x 2) and expression 2: 12 + (20 x 2)
- ☐ b) Expression 1: (20 - 12) x 10 and expression 2: (12 - 20) x 10
- ☐ c) Expression 1: 20 + (7 + 15) and expression 2: 7 + (20 + 15)
- ☐ d) Expression 1: 20 x (6 - 5) and expression 2: (20 - 5) x (20 - 6)

3 The expression for the total area of the hospital is 4(3j + 14 - 4k - 5) sq unit. Select the equivalent expression.



- ☐ a) 4(3j - 4k - 19) sq unit
- ☐ b) 12j - 56 - 16k -20 sq unit
- ☐ c) 4(3j - 4k - 9) sq unit
- ☐ d) 12j - 16k + 36 sq unit

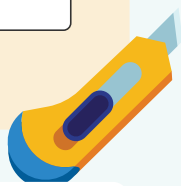
4 Complete the following table.



Expression 1	Expression 2	Equivalent expressions (Yes/No)
6(3n + 5)	(6 x 3n) + (6 x 5)	
15 + a(3 - 1)	15 + 2(3a - a)	
$\frac{1}{5}$(p + 25q - 15r)	$\frac{p}{5}$ + 5q - 3r	

5 Factorize the following algebraic expressions and write the answer in the boxes given below.

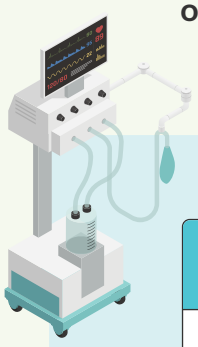
a) 20a + 50 ☐ b) 12b - 24 ☐ c) 6 + 15c ☐



Learning Outcome:
Apply the properties of operations (commutative, associative, and distributive without names) to generate equivalent expressions in algebra by combining the terms in the expressions (using only factoring of numbers for division).

6.EE.A.3

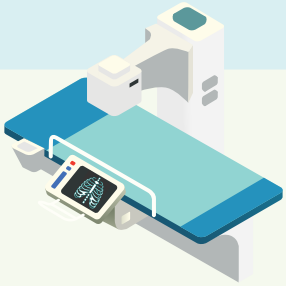
Our hospital plan looks good but we need to order new equipment for the medical facilities. Place an order from Galaxy mart for all the equipment required.



Equipment	Cost of 1 unit (Expression)	Number ordered
CT scanners	$(3n + 4)$	5
Digital X-ray	$(\frac{p}{2} - \frac{1}{5})$	10
Blood bags	$(\frac{m}{5} + \frac{q}{15} - 2r)$	25
Ventilators	$(3j + 10k) \times \frac{1}{3}$	3
Tesla MRI	$(12 \times 10) - 40$	a

After the order was placed, a receipt was provided by the mart specifying the amount paid for each piece of equipment. Fill the receipt with the amount.

Equipment	Amount paid (Expression)	Value	Amount ($) (in thousands)
CT scanners		$n = 2$	
Digital X-ray		$p = 10$	
Blood bags		$m = 1, q = 15, r = \frac{1}{10}$	
Ventilators		$j = \frac{1}{6}, k = 3$	
Tesla MRI		$a = \frac{1}{4}$	



Learning Outcome:
Apply the properties of operations (commutative, associative, and distributive without names) to generate equivalent expressions in algebra by combining the terms in the expressions (using only factoring of numbers for division). 6.EE.A.3

Due to the COVID-19 pandemic, the number of beds in the hospital must be increased so that proper care can be given to the maximum number of patients.

Design a plan to utilize the space available.

1. Total number of COVID positive patients (n) = ☐

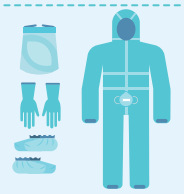
   (The value of n can be between 50 and 100)

2. Total number of COVID tests available (t) = 6(2n + 5) + 50

   Number of COVID tests available = ☐

3. Total number of PPE kits required (k) = 20(1/2t + 9)

   Number of PPE kits required = ☐



4. Total area available for the installation of new beds(a) = 3l x 4w sq ft
   (The value of l can be between 20 and 30,and the value of w can between 30 and 40.)

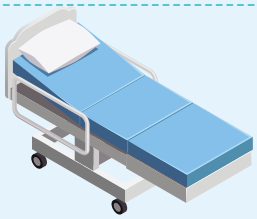
   l = ☐ ft

   W = ☐ ft

   Total area available = ☐ sq ft

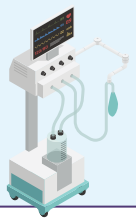
5. Total number of beds that can be installed (b) = 2(n - 25)

   Total number of beds installed = ☐



6. Total number of ventilators required (v) = 1/2(n + 10)

   Number of ventilators required = ☐



Utilize the space available to show your plan as a blueprint.