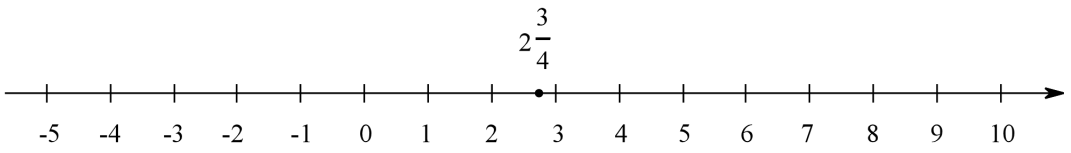
# RGS 2023 Y1 Math
# Term1 Class Based Assessment

1. Evaluate the following and leave your answers as a fraction **in the lowest terms**.
   (a) $0.0273 \div 0.3$ [2]
   (b) $2 \times 3 - 4 \div (-5) + (-6)$ [2]

2. On the given number line, the number $2\frac{3}{4}$ is shown. Use dots to represent the following numbers on the same number line: $-\frac{3}{4}, \sqrt{\frac{48}{3}}, -\frac{1}{\left(\frac{1}{5}\right)}, 2.5^2$ [4]




3. The diameter of a circle is $\sqrt[3]{2744}$ cm. Find by **prime factorisation**, the **radius** of the circle. [3]

4. (i) Showing your working clearly, express 2484 as a product of its prime factors. Leave your answer in **index notation**. [2]

(ii) Hence, find the **smallest positive integer** of $k$ such that $\frac{2484}{k}$ is perfect square. [2]

5. Evaluate the following:

(a) $\left[\left(-4^2+3\right)+\left(7-14\right)\right]\times\left(-2\right)^3$ [3]

(b) $\dfrac{\frac{14}{3}\div 3\frac{1}{3}\times\left(-1\frac{1}{9}\right)}{2-\left(-0.5\right)^2}$ [3]



6. **Using Arithmetic Laws**, evaluate $676 \times 268 - 258 \times (23 + 576 + 77)$. **Tick** the arithmetic law(s) used in the table below. [3]

| **Tick the law(s) applied.<br>You may tick more than one.** | |
|---|---|
| | **Commutative Law of Addition** |
| | **Commutative Law of Multiplication** |
| | **Associative Law of Addition** |
| | **Associative Law of Multiplication** |
| | **Distributive Law of Multiplication over Addition** |
| | **Distributive Law of Multiplication over Subtraction** |

7. In a factory, Machine A is checked every 12 hours, Machine B is checked every 20 hours Machine C is checked every 18 hours. If all three machines undergo a check today at 8am, how long, in hours, will it take for all three machines to be checked at the same time again? [3]

8. Susan thinks that $\sqrt{35}$ is bigger than $\sqrt[3]{218}$. Do you agree? Explain your answer. [3]