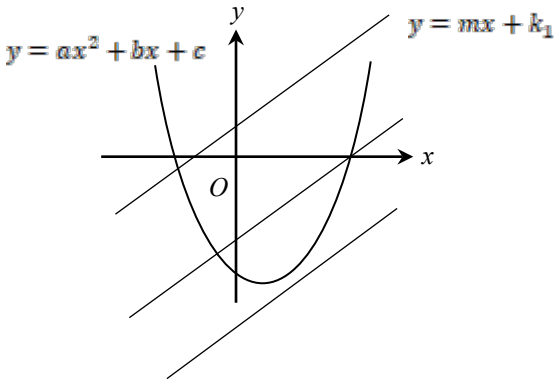
(5A) Ch.1 More about Equations
Multiple Choice Questions

[21-22]

1. [21-22 S.4 Final Exam, #13]

The figure shows the graphs of $y = ax^2 + bx + c$, $y = mx + k_1$, $y = mx + k_2$ and $y = mx + k_3$. Which of the following are true?

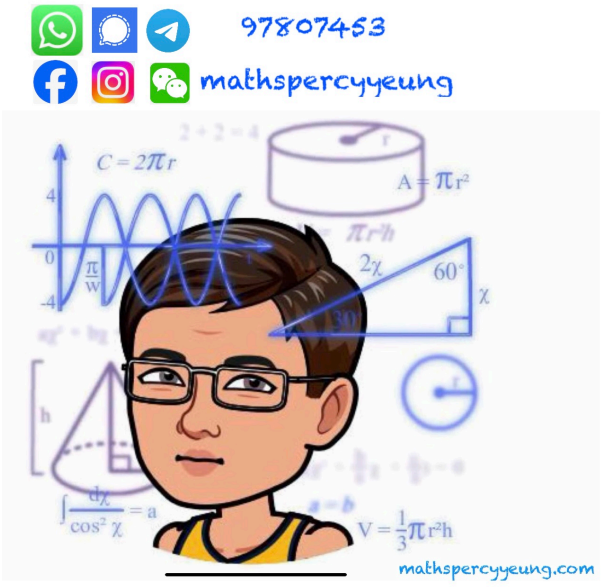


I. $\begin{cases} y = ax^2 + bx + c \\ y = mx + k_1 \end{cases}$ has 1 real root only.

II. $\begin{cases} y = ax^2 + bx + c \\ y = mx + k_2 \end{cases}$ has 2 distinct real roots.

III. $\begin{cases} y = ax^2 + bx + c \\ y = mx + k_3 \end{cases}$ has no real roots.

A. I and II only
B. I and III only
C. II and III only
D. I, II and III



2. [21-22 S4 Final Exam, #14]

Solve $x^2 + xy = 2x - y + 20 = 28$.

A. $\left(-\frac{14}{3}, -\frac{52}{3}\right)$ or $(2, -4)$

B. $\left(\frac{10}{3}, -\frac{4}{3}\right)$ or $(10, 12)$

C. $\left(\frac{14}{3}, \frac{4}{3}\right)$ or $(-2, -12)$

D. $\left(\frac{14}{3}, \frac{4}{3}\right)$ or $(2, -4)$

3. [21-22 S.5 Mid-year, #24]

If $4x^2 - y^2 + 2 = 4x + y = 5$, then $y =$

A. -1 or 3.
B. -1 or 5.
C. 1 or $-\frac{13}{3}$.
D. 1 or $\frac{7}{3}$.

4. [21-22 S.5 Mid-year, #29]

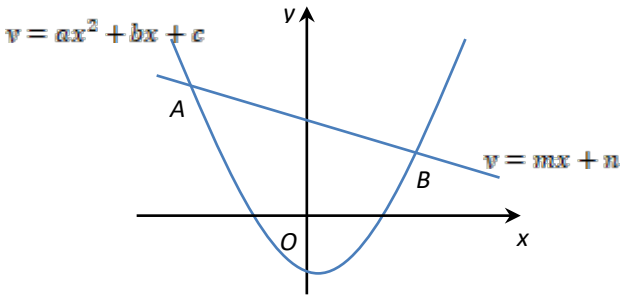
The figure shows the graphs of $y = ax^2 + bx + c$ and $y = mx + n$. The two graphs intersect at two distinct points A and B. Which of the following must be true?

I. $b^2 > 4ac$

II. The equation $ax^2 + (b-m)x + (c-n) = 0$ has no real roots.

III. The x-coordinate of the mid-point of AB is $\frac{m-b}{2a}$.

A. I only
B. II only
C. I and III only
D. II and III only



5. [21-22 S.5 Final Exam, #25]

Solve $2^x - \sqrt{2^x + 65} = 7$.

A. $x = 4$
B. $x = 16$
C. $x = 0$ or 4
D. $x = -1$ or 16

[22-23]

6. [S.5 22-23 Final,#44]

Solve the equation $\frac{1}{x}-\frac{1}{\sqrt{x}}=30$.

A. $x=-\frac{1}{5}$ or $x=\frac{1}{6}$

B. $x=-\frac{\sqrt{5}}{5}$ or $x=\frac{\sqrt{6}}{6}$

C. $x=\frac{1}{36}$

D. $x=\frac{1}{25}$ or $x=\frac{1}{36}$

~End~

(5A)Ch.1 More about Equations
Conventional Questions

[21-22]

1. [21-22 S.5 Mid-term, #14]

Solve the following equations.

(a) $6x + 5\sqrt{3x-1} = 9$ **(2 marks)**

(b) $9^{x+1} + 26(3^x) - 3 = 0$ **(2 marks)**

~End~