**Iterations GREEN**

1a) Show that $x^{2}-4x-9=0$ can be written in the form $x= \sqrt{9+4x}$.

b) Use the iteration formula $x\_{n+1}= \sqrt{9+4x\_{n}}$ to find $x\_{3}$ to 2 decimal places. Start with $x\_{0}=2.$

2a) Show that $x^{3}- x-19=0$ can be written in the form $x= \sqrt[3]{x+19}$.

b) Use the iteration formula $x\_{n+1}= \sqrt[3]{x\_{n}+19}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=0.$

3a) Show that $x^{2}+4x-29=0$ can be written in the form $x= \sqrt{29-4x}$.

b) Use the iteration formula $x\_{n+1}= \sqrt{29-4x\_{n}}$ to find $x\_{3}$ to 2 decimal places. Start with $x\_{0}=1.$

4a) Show that $x^{3}+3x-260=0$ can be written in the form $x= \sqrt[3]{260-3x}$.

b) Use the iteration formula $x\_{n+1}= \sqrt[3]{260-3x\_{n}}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=2.$

5a) Show that $2x^{2}+3x-6=0$ can be written in the form $x= \frac{6-2x^{2}}{3}$.

b) Use the iteration formula $x\_{n+1}= \frac{6-2x\_{n}^{2}}{3}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=1.$

6a) Show that $\frac{x^{4}}{2}-3x=0$ can be written in the form $x= \sqrt[4]{6x}$.

b) Use the iteration formula $x\_{n+1}= \sqrt[4]{6x\_{n}}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=4.$

7a) Show that $4x^{2}+6x-9=0$ can be written in the form $x= \frac{9-4x^{2}}{6}$.

b) Use the iteration formula $x\_{n+1}= \frac{9-4x\_{n}^{2}}{6}$ to find $x\_{3}$ to 2 decimal places. Start with $x\_{0}=0.$

8a) Show that $x^{2}-3x^{3}+4=0$ can be written in the form $x= \sqrt{3x^{3}-4}$.

b) Use the iteration formula $x\_{n+1}= \sqrt{3x\_{n}^{3}-4}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=2.$

**Iterations AMBER**

1a) Show that $x^{2}-4x-9=0$ can be written in the form $x= \sqrt{9+4x}$.

Start by isolating x².

b) Use the iteration formula $x\_{n+1}= \sqrt{9+4x\_{n}}$ to find $x\_{3}$ to 2 decimal places. Start with $x\_{0}=2.$

Substitute xn with 2.

Use your calculator to calculate x1.

 $x\_{1}=\sqrt{9+4(2)}=$

 $x\_{2}=$

2a) Show that $x^{3}- x-19=0$ can be written in the form $x= \sqrt[3]{x+19}$.

Start by isolating x3.

Substitute xn with 0.

Use your calculator to calculate x1.

b) Use the iteration formula $x\_{n+1}= \sqrt[3]{x\_{n}+19}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=0.$

3a) Show that $x^{2}+4x-29=0$ can be written in the form $x= \sqrt{29-4x}$.

Substitute xn with 1.

Use your calculator to calculate x1.

Start by isolating x².

b) Use the iteration formula $x\_{n+1}= \sqrt{29-4x\_{n}}$ to find $x\_{3}$ to 2 decimal places. Start with $x\_{0}=1.$

4a) Show that $x^{3}+3x-260=0$ can be written in the form $x= \sqrt[3]{260-3x}$.

b) Use the iteration formula $x\_{n+1}= \sqrt[3]{260-3x\_{n}}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=2.$

5a) Show that $2x^{2}+3x-6=0$ can be written in the form $x= \frac{6-2x^{2}}{3}$.

b) Use the iteration formula $x\_{n+1}= \frac{6-2x\_{n}^{2}}{3}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=1.$

6a) Show that $\frac{x^{4}}{2}-3x=0$ can be written in the form $x= \sqrt[4]{6x}$.

b) Use the iteration formula $x\_{n+1}= \sqrt[4]{6x\_{n}}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=4.$

7a) Show that $4x^{2}+6x-9=0$ can be written in the form $x= \frac{9-4x^{2}}{6}$.

b) Use the iteration formula $x\_{n+1}= \frac{9-4x\_{n}^{2}}{6}$ to find $x\_{3}$ to 2 decimal places. Start with $x\_{0}=0.$

8a) Show that $x^{2}-3x^{3}+4=0$ can be written in the form $x= \sqrt{3x^{3}-4}$.

b) Use the iteration formula $x\_{n+1}= \sqrt{3x\_{n}^{3}-4}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=2.$

**Iterations RED**

1a) Show that $x^{2}-4x-9=0$ can be written in the form $x= \sqrt{9+4x}$.

 $+ 4x+9$ $+4x+9$

Start by isolating x².

Then square root both sides.

 $x^{2}=4x+9$

b) Use the iteration formula $x\_{n+1}= \sqrt{9+4x\_{n}}$ to find $x\_{3}$ to 2 decimal places. Start with $x\_{0}=2.$

Substitute xn with 2.

Use your calculator to calculate x1.

 $x\_{1}=\sqrt{9+4(2)}=$

 $x\_{2}=\sqrt{9+4(ANS)}=$

 $x\_{3}=$

2a) Show that $x^{3}- x-19=0$ can be written in the form $x= \sqrt[3]{x+19}$.

Start by isolating x3.

Then cube root both sides.

Substitute xn with 0.

Use your calculator to calculate x1.

b) Use the iteration formula $x\_{n+1}= \sqrt[3]{x\_{n}+19}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=0.$

 $x\_{1}=\sqrt[3]{(0)+19}=$

 $x\_{2}=\sqrt[3]{(ANS)+19}$

 $x\_{3}=$

3a) Show that $x^{2}+4x-29=0$ can be written in the form $x= \sqrt{29-4x}$.

Substitute xn with 1.

Use your calculator to calculate x1.

Start by isolating x².

b) Use the iteration formula $x\_{n+1}= \sqrt{29-4x\_{n}}$ to find $x\_{3}$ to 2 decimal places. Start with $x\_{0}=1.$

4a) Show that $x^{3}+3x-260=0$ can be written in the form $x= \sqrt[3]{260-3x}$.

b) Use the iteration formula $x\_{n+1}= \sqrt[3]{260-3x\_{n}}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=2.$

5a) Show that $2x^{2}+3x-6=0$ can be written in the form $x= \frac{6-2x^{2}}{3}$.

b) Use the iteration formula $x\_{n+1}= \frac{6-2x\_{n}^{2}}{3}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=1.$

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b) Use the iteration formula $x\_{n+1}= \frac{9-4x\_{n}^{2}}{6}$ to find $x\_{3}$ to 2 decimal places. Start with $x\_{0}=0.$

8a) Show that $x^{2}-3x^{3}+4=0$ can be written in the form $x= \sqrt{3x^{3}-4}$.

b) Use the iteration formula $x\_{n+1}= \sqrt{3x\_{n}^{3}-4}$ to find $x\_{4}$ to 2 decimal places. Start with $x\_{0}=2.$