Problem Solving
Book B

$$
\begin{aligned}
& \sqrt{16 \cdot x}+\frac{i+10}{50}=\frac{20}{\alpha} \quad \sum_{N} \int^{y} \times \frac{a^{2} C_{1}^{3}}{3 T}(y+A)=\frac{2}{3} A \\
& m+n \quad E=m c^{2} \operatorname{grad} \phi(x, y) M=\sqrt{\frac{3 \cdot 6 \cdot 10^{\circ}}{3-18 \cdot 10^{\circ}}} \\
& \text { b-ㅇ } \int \sqrt{a^{2}} d x=\frac{x}{2} \sqrt{a^{2}-x^{2}}+\frac{a^{2}}{2} \frac{\partial d}{\partial d} i+\frac{\partial \phi}{\partial \phi} j \\
& \int \sqrt{a^{2}-x^{2}} d x=\frac{x}{2} \sqrt{a^{2}-x^{2}}+\frac{a^{2}}{2} \sin ^{-1} \frac{x}{a}+C \\
& \infty^{a} c=\pi r^{2} \\
& 46<x \\
& a x+b x+c=0 \\
& \Delta=b^{2}-4 a c \\
& a \neq 0 \quad f(x)=a\left(x^{2}+\frac{b}{a} x+\frac{c}{a}\right)\{a<b\}
\end{aligned}
$$

Name:

Class:
Date Started:
Date Finished:

Problem Solving Rules
 operation(s).

Problem Solving Strategies


Science lasts for 55 minutes and ends at 3.30pm. At what time does Science start?

Class 7 needs to get to the museum at 11.30am. It is a 17 minute walk from the museum. At which time must Class 7 leave school if they are to arrive at the museum at exactly 11.30am?

Jenny bought 7 t-shirts, one for each of her seven brothers, for £9.95 each. The cashier charged her an additional $£ 13.07$ in sales tax. She left the store with a measely £7.28. How much money did Jenny start with?

Mary has $£ 50.00$. She goes to the mall and buys lipstick and then she buys shampoo, which is half the price of the lipstick. She then spends half of what she has left on a purse, leaving her with £15.00.

How much did the shampoo cost?
How much did the lipstick cost?

A cage contains birds and rabbits. There are sixteen heads and thirty-eight feet. How many birds are there in the cage?

Find the smallest multiple of nine containing only even digits.

Marvin's Taxi Service charges $£ 0.30$ for the first kilometer and $£ 0.05$ for each additional km.

If the cab fare was $£ 3.20$, how far did the Taxi go?

A boy ate 100 cookies in five days. Each day he ate 6 more than the day before.

How many cookies did he eat on the first day?

Sarah started school at the age of five. She spent one quarter of her life being educated, and went straight into work. After working for one half of her life, she lived for fourteen happy years after retiring.

How old was she when she retired?

At a birthday party, one-half drank only lemonade, one-third drank only cola, fifteen people drank neither, and nobody drinks both.

How many people were at the party?

Mr. and Mrs. Roberts have two daughters and three sons. At Easter time every member of the family buys one chocolate Easter egg for each other member. How many Easter eggs will be bought in total?

When travelling by aircraft, passengers have a maximum allowable weight for their luggage. They are then charged $£ 10$ for every kilogram overweight. If a passenger carrying 40 kg of luggage is charged $£ 50$, how much would a passenger carrying 80 kg be charged?

The digital root of the year 2007 is $2+0+0+7=9$, which is a square number.

How many years during the twenty-first century (2001-2100) have a square digital root?

In my pocket I have exactly $15 p$, comprising of eight coins made up of $1 p, 2 p$ and 5 p pieces. How many of each coin do I have?

A tortoise and a hare race against each other.
A hare runs at a constant speed of 36 km per hour for exactly ten seconds and waits for the tortoise to catch up.

If the tortoise takes two hours to move 1 km , how long will it take to catch up?

A student has an average score of $85 \%$ after completing four tests.
What is the lowest possible percentage score in any one of the tests?

Sue has 3 horses who each drink 9 gallons of water a day. When the taps froze in their field, she had to drive to them, taking their water in 4 -gallon containers. She only has 3 of these. How many trips in her car did she have to make each day?

Aunty Histamine needs to take 15 ml of medicine 3 times a day for 2 weeks. How much medicine will she have taken when she has finished?

A dog chasing a rabbit, which has a start of 45 m , jumps 3 m every time the rabbit jumps 2 m . In how many leaps does the dog overtake the rabbit?

If the length of the hour and minute hand of a clock are 4 cm and 6 cm respectively, what is the distance in cm , between the tips of the hands at two o'clock?

