

| Question | Answer |
| :---: | :---: |
| 6 | a) <br> b) |
| 7 | Alex is incorrect. <br> The number line is going up in 50 s <br> If the number line was going up in 100s, the last number would be 2,000 |
| 8 |  |
| 9 | Children may decide to divide the number line up into different intervals to help them place the numbers. |


| Question | Answer |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | a) Annie has made the number 315 <br> b) 100 more than Annie's number is 415 <br> c) 10 more than Annie's number is 325 <br> d) 1 more than Annie's number is 316 |  |  |  |  |  |  |
| 2 | The number represented is 492 <br> a) 100 more than the number is 592 10 more than the number is 502 1 more than the number is 493 <br> b) 100 less than the number is 392 10 less than the number is 482 1 less than the number is 491 |  |  |  |  |  |  |
| 3 | a) 800 <br> b) 485 <br> c) 690 <br> d) 147 |  |  |  |  |  |  |
| 4 | a) 372 <br> b) 190 <br> c) 713 <br> d) 705 |  |  |  |  |  |  |
| 5 | a) 779 <br> b) 235 <br> c) 290 <br> d) 394 |  |  |  |  |  |  |
| 6 | a) 100 more than 763 is 863 <br> b) 865 is 100 more than 765 <br> c) 403 is 100 less than 503 <br> d) 1 less than 300 is 299 <br> e) 10 less than 109 is 99 <br> f) 962 is 10 less than 972 <br> g) 698 is 1 less than 699 |  |  |  |  |  |  |
| 7 | Tom's number could have been 502, 412 or 403 |  |  |  |  |  |  |
| 8 | 100 more | 10 more | 1 more | number | 1 less | 10 less | 100 less |
|  | 573 | 483 | 474 | 473 | 472 | 463 | 373 |
|  | 398 | 308 | 299 | 298 | 297 | 288 | 198 |
|  | 1,000 | 910 | 901 | 900 | 899 | 890 | 800 |
| 9 | 990 is 10 less than Kim's number. |  |  |  |  |  |  |

## 

| Question | Answer |
| :---: | :---: |
| 1 | a) Dora has 462 bricks. <br> b) Ron has 526 bricks. <br> c) Ron has the greater number of bricks. <br> There are more hundreds boxes and 500 is greater than 400 , so 526 is greater than 462 |
| 2 | a) 512 <br> b) 720 <br> c) 528 <br> d) 300 |
| 3 | Amir 500 is greater than 300 so Amir's number must be greater. |
| 4 | Practical activity: use 8 pieces of base 10 to make different numbers and compare them with their partner's numbers. They will make a range of numbers that have a digit total of 8 |
| 5 | a) > <br> b) < |
| 6 | 3 counters added to the right-hand place value chart to make the statement correct: 1 counter added to hundreds column if at least 1 counter added to tens column; or 2 or 3 counters added to hundreds column. |
| 7 | 604, 613, 622, 631 or 640 |

24. 9. 2020 Compare numbers Answers

| Question | Answer |
| :---: | :---: |
|  | 359 |
| 2 | 817 |
| 3 | 370 |
| 4 | 700, 396, 400 |
| 5 | 634, 715, 66 |
| 6 | a) < <br> b) < <br> c) > <br> d) the ones columns |
| 7 | a) 328 is less than 344 <br> b) 916 is greater than 490 <br> c) 510 is less than 517 |
| 8 | Steel Man lasts the longest. |
| 9 | a) < <br> b) < <br> c) > <br> d) $>$ <br> e) $>$ <br> f) $>$ <br> g) $=$ <br> h) < |
| 10 | a) $5,4,3,2$ or 1 0 or 1 0 <br> b) $6,7,8$ or 9 any digit any digit |
| 11 | a) 8,9 <br> b) $7,8,9$ <br> c) 9 |

## YEAR 3 PIM - NUMBER LINE TO 1000

## Reasoning 1

D - True
A - 550 is a good estimate for $F$.
B - The F is at the midway point. The starting number is 300 and end number is 800. To find the midway point we find the difference between the two numbers and divide by 2 :
$800-300=500$
$500 / 2=250$
We then add this onto the starting number:
$300+250=550$
Therefore the midway point is 550 .
We might also work out that the intervals increase in 50 s and if we count up in 50 s we get to 550 at the midway point:
$300,350,400,450,500,550$.

Reasoning 2
D - Ranjit is incorrect.
A - The arrow does not mark 600
B - The intervals are increasing in 50 s. The arrow is only one interval after 500 so the arrow is pointing to 550 , not 600.

## Reasoning 1

D - The answer is correct.
A - Caleb will have £723 left over.
B - We can show this by doing each calculation:
$834-100=734$
$734-10=724$
$724-1=723$

## Reasoning

D - I disagree with Jerry
A - If you are adding 10 you will not always only change one digit.
B - Sometimes you will have to change more than one digit when adding ten. This occurs when you have 9 tens and add ten. In these situations you will change the tens to 0 and the hundreds column will change as well. Eg. 93, 103 and 91, 101.

## Problem Solving 1

There are many possibilities including:
Ranjit-304, 233, 401 Millie - 303, 233, 401
Ranjit-314, 123, 401 Millie-314, 123, 401
Ranjit - 313, 233, 401 Millie - 303, 233, 401

Pupils should be encouraged to set up a grid and work methodically to find the answers.

## DEEPENING UNDERSTANDING ANSWER SHEET

## YEAR 3 PIM - COMPARING OBJECTS

## Fluency 1

321 is greater than 231 because it has more hundreds

425 is less than 443 because it has fewer tens

Fluency 2
Any chart that shows a greater number than Jane's, for example:


## Reasoning 1

## Modelled DAB Reasoning Responses

D - Millie is not correct.
A - She cannot just look at how many hundreds there are.
B - If there are a different amount of hundreds, Millie only needs to see which has more. However, if there are the same amount of hundreds she will have to compare the tens, and if they are the same then she needs to look at the ones.

## Problem Solving 1



There are other solutions that use 4 pieces of base 10 including ones
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## Reasoning 1

## Modelled DAB Reasoning Response

D - It is true.
A - 421 is greater than 4 hundreds and 1 one.


Problem Solving 1
There are lots of solutions!

| $102<345$ | $102<354$ | $102<534$ | $102<543$ |
| :--- | :--- | :--- | :--- |
| $102<435$ | $102<453$ |  |  |
| $120<345$ | $120<354$ | $120<534$ | $120<543$ |
| $120<435$ | $120<453$ |  |  |
| $201<345$ | $201<354$ | $201<534$ | $201<543$ |
| $201<435$ | $201<453$ |  |  |
| $210<345$ | $210<354$ | $103<524$ | $210<543$ |
| $210<435$ | $210<453$ |  | $103<542$ |
| $103<245$ | $103<254$ | $130<524$ | $130<542$ |
| $102<425$ | $103<452$ |  |  |
| $130<245$ | $130<254$ | $301<524$ | $301<542$ |
| $130<425$ | $130<452$ |  |  |
| $301<>245$ | $301>254$ | $310<524$ | $310<542$ |
| $301<425$ | $301<452$ |  | $104<523$ |


| $104<235$ | $104<253$ |  |  |
| :--- | :--- | :--- | :--- |
| $140<325$ | $140<352$ | $140<532$ | $140<523$ |
| $140<235$ | $140<253$ |  |  |
| $401>325$ | $401>352$ | $401<532$ | $401<523$ |
| $401>235$ | $401>253$ |  |  |
| $410>325$ | $410>352$ | $410<532$ | $410<523$ |
| $410>235$ | $410>253$ |  |  |
| $105<342$ | $105<324$ | $105<234$ | $105<243$ |
|  |  |  | $150<243$ |
| $150<342$ | $150<324$ | $501>234$ | $501>243$ |
| $150<432$ | $150<423$ |  |  |
| $501>342$ | $501>324$ | $510>234$ | $510>243$ |
| $501>432$ | $501>423$ |  |  |
| $510>342$ | $510>324$ |  |  |

