**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_**

**Adding and Subtracting Matrices**

***Find each sum or difference.***

1. **** 2. 

3.  4. ****

***Solve each matrix equation.***

5. **** 6. ****

7. **** 8. ****

***Find each sum.***

9. **** 10. ****

***Find the value of each variable.***

11. **** 12. ****

***Find each matrix sum or difference if possible. If not possible, explain****.*

****

13.*M + N* 14.*Q − P*

15.*Q + N* 16.*P + Q*

17.The table shows the number of males and females in four clubs at a high school for two school years.

**Club Membership**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **1971-1972** | | **2010-2011** | |
|  | **Males** | **Females** | **Males** | **Females** |
| **Book** | 7 | 27 | 56 | 58 |
| **Spanish** | 43 | 64 | 76 | 82 |
| **Chess** | 28 | 0 | 35 | 26 |
| **French** | 16 | 18 | 59 | 73 |

a.Write four 4 × 1 matrices, *A*, *B*, *C*, and *D*, to represent the male and female club membership for 1971–1972 and 2010–2011.

b.Write and solve a matrix equation to find matrix *X*, the total number of members in each club for 1971–1972.

c.Did the total number of female club member’s increase or decrease between  
the two school years, and by what amount?

18. **Think about it:** Let *C* = , and *C* + *D* =    
If *c*11  · *d*11 = −6 and *c*11 > 0, what is the value of *d*11?



**Relay Race Results:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Team I** | | **Team II** | |
| **Leg** | **Name** | **Time (s)** | **Name** | **Time (s)** |
| **1** | Juan | 22 | Miguel | 23 |
| **2** | Julio | 25 | James | 22 |
| **3** | Alex | 23 | Gino |  |
| **4** | Ted | 21 | Cody | 20 |

19.The table shows the time each member of two relay teams took to complete his leg of a relay race. Team II won the race by 3 seconds. How many seconds did Gino take to run his leg of the race?

**Writing:** Determine whether the two matrices in each pair are equal. Explain.

20. **** 21. ****