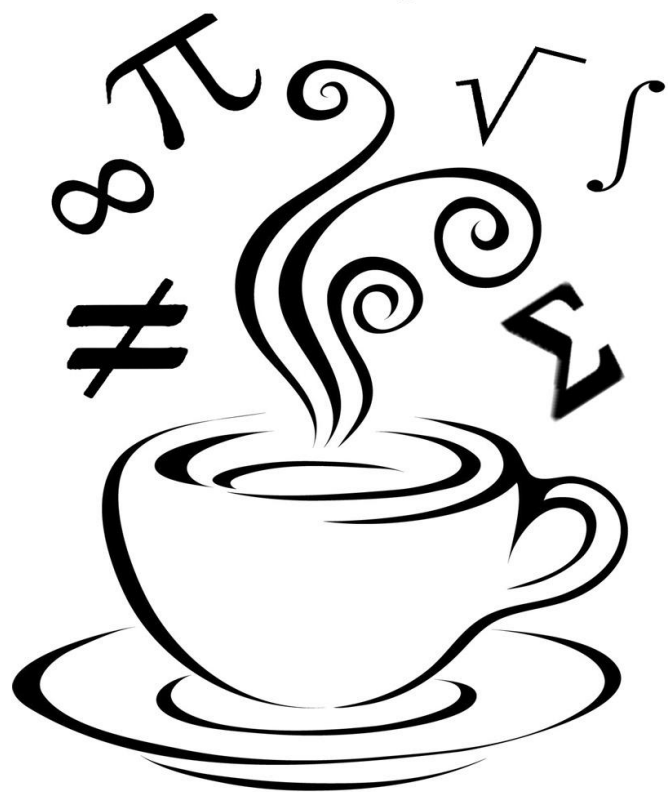Intersection & Union with Sets and Complements

We're Bruyn Math

Shari Bruyn & Associates
Putting the Fun in the Fundamentals of Math

Set Theory – Intersection & Union with Sets and Complements

What happens when an escalator breaks down? Use the sets given to find the solutions. Cross out the solutions in the grid below to reveal the solution to the riddle. Use these sets to complete the problems.

 U = {1,2,3,4,5,6,7,8,9,10}   A={1,3,7,9}   B={3,7,8,10}   C={1,3,6}

1. AUB

2. AUC

3. BUC

4. A∩B

5. A∩C

6. A∩C'

7. A'UB

8. B'∩C'

9. (AUC')'

10. (B'∩C)'

11. A∩C∩B

12. (A∩C)'∩B

13. (A∩C') ∩B

14. (A'UC') ∩ B'

{3} RUN	{1} NOT	{7,8,10} UP	{3,7} THE	{2,4,6,8,10} HI
{4,5,6} NGT	{1,3,6,7,8,10} HEY	{ } HE	{1,3,6,7,9} EWS	{3,4,5,6,7,8,9,10} YJU
{1,10} ST	{2,4,5,9} TING	{1,2,3} TU	{7,9} BUT	{2,3,4,5,6,7,8,10 NI
{1,3} QUA	{10} RNI	{1,3,7,8,9,10} ING	{1,5,10} NTO	{2,3,4,5,7,8,9,10} ERS
{7} STR	{9,10} STA	{3,4,5,6,7,9} IRS	{6} STY	{2,4,5,6,9} LY

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 U = {1,2,3,4,5,6,7,8,9,10}   A={1,3,7,9}   B={3,7,8,10}   C={1,3,6}

1. A∪B
{1,3,7,8,9,10}

2. A∪C
{1,3,6,7,9}

3. B∪C
{1,3,6,7,8,10}

4. A∩B
{3,7}

5. A∩C
{1,3}

6. A∩C'
{7,9}

7. A'∪B
{2,3,4,5,6,7,8,10}

8. B'∩C'
{2,4,5,9}

9. (A∪C')'
{6}

10. (B'∩C)'
{2,3,4,5,7,8,9,10}

11. A∩C∩B
{3}

12. (A∩C)'∩B
{7,8,10}

13. (A∩C') ∩B
{7}

14. (A'∪C') ∩B'
{2,4,5,6,9}

{3} RUN	{1} NOT	{7,8,10} UP	{3,7} THE	{2,4,6,8,10} HI
{4,5,6} NGT	{1,3,6,7,8,10} HEY	{ } HE	{1,3,6,7,9} EWS	{3,4,5,6,7,8,9,10} YJU
{1,10} ST	{2,4,5,9} TING	{1,2,3} TU	{7,9} BUT	{2,3,4,5,6,7,8,10} NI
{1,3} QUA	{10} RNI	{1,3,7,8,9,10} ING	{1,5,10} NTO	{2,3,4,5,7,8,9,10} ERS
{7} STR	{9,10} STA	{3,4,5,6,7,9} IRS	{6} STY	{2,4,5,6,9} LY

Nothing. They just turn into stairs.