

Page 1 of 1

RES
2025

The diagram shows three overlapping rectangles labeled A, B, and C.

- Rectangle A** (pink) has a width of 16 and a height of 32. Its area is 512.
- Rectangle B** (red) has a width of 8 and a height of 6. Its area is 48.
- Rectangle C** (green) has a width of 16 and a height of 4. Its area is 64.

The overlaps are as follows:

- A and B overlap by 8 units in width and 6 units in height. The overlapping area is 48.
- B and C overlap by 8 units in width and 4 units in height. The overlapping area is 32.
- A and C overlap by 8 units in width and 4 units in height. The overlapping area is 32.
- All three rectangles overlap in a central region that is 8 units wide and 4 units high. This area is counted twice in the sum of individual areas.

To find the total area covered by all three rectangles, we use the principle of inclusion-exclusion:

$$\text{Total Area} = \text{Area A} + \text{Area B} + \text{Area C} - \text{Overlap AB} - \text{Overlap BC} - \text{Overlap AC} + \text{Overlap ABC}$$

$$= 512 + 48 + 64 - 48 - 32 - 32 + 32 = 584$$

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