2. Two congruent right triangles each have legs 6 cm and 4 cm. Rearrange the two triangles to form a rectangle. What is the area of that rectangle (and thus the combined area of the two triangles)?

3. A composite shape is made by joining two rectangles: one 8 cm by 3 cm and another 5 cm by 3 cm, sharing a side of length 3 cm (they form a longer rectangle when rearranged). Find the total area.

4. A right triangle with base 9 cm and height 4 cm is cut into two smaller triangles by drawing a line from the right angle to the hypotenuse, forming two triangles that together can be rearranged into a rectangle. What is the area of the original triangle (use rearrangement idea)?

5. An irregular figure is made by three 2 cm by 5 cm rectangles attached end to end in an offset manner. By rearranging the three pieces you can make one rectangle. Find the total area.

6. A shape is formed by cutting a 12 cm by 5 cm rectangle into two pieces along a vertical line so one piece is 7 cm by 5 cm and the other is 5 cm by 5 cm. Rearrange the pieces to form a single rectangle of different dimensions. What is the area?

7. Two congruent isosceles triangles (base 10 cm, height 6 cm) are placed together along their bases to form a kite; rearrange them side by side to make a rectangle. What is the area of the kite?

8. A 9 cm by 9 cm square has a 3 cm by 3 cm square removed from one corner. By rearranging the parts you can form a rectangle. Find the area of the remaining shape.

9. Three right triangles each have legs 4 cm and 3 cm. If you arrange two triangles to make a rectangle and add the third triangle, what is the total area?

10. A trapezoid can be cut into a rectangle and a right triangle. A trapezoid has bases 12 cm and 8 cm and height 5 cm. By cutting and rearranging into a rectangle plus triangle, what is the trapezoid's area? (Use rearrangement idea.)

11. A block-shaped figure is made of two congruent rectangles, each 6 cm by 4 cm, stacked with a small 2 cm by 4 cm rectangle removed from the top left. Rearranged, the pieces can form one rectangle. What is the total area?

12. Four congruent right triangles (each leg lengths 3 cm and 4 cm) are arranged to form a rectangle. What is the area of that rectangle (and of the four triangles combined)?

13. A rectangular sheet 15 cm by 6 cm has a 5 cm by 6 cm strip cut off. Rearrange the two pieces to make a new rectangle; what is the area of the original sheet?

14. A T-shaped figure is made by a 10 cm by 2 cm rectangle centered on top of a 6 cm by 8 cm rectangle. By splitting and rearranging pieces, find the total area of the T-shape.

15. A stair-step shape consists of two 3 cm by 3 cm squares stacked above two 3 cm by 3 cm squares offset, forming a 6 by 6 square with two missing 3x3 corners. Rearrange the four small squares to form a single rectangle. What is the combined area?

16. A right triangle with base 12 cm and height 5 cm can be cut into smaller shapes and rearranged into a rectangle with one side 6 cm. What is the area of the triangle (and the rectangle)?

17. A rectangle 14 cm by 3 cm is cut into two pieces: one 9 cm by 3 cm and one 5 cm by 3 cm. If you place the shorter piece on top of the longer to form a new rectangle shape of width 3 cm, what is the combined area?

Area of composite shapes (18-35)

18. A garden bed is made of a 8 m by 3 m rectangle attached to a right triangle of base 4 m and height 3 m on one end. Find the total area of the garden bed.

Math Worksheet for 6th Grade
Area of composite figures
Name: Due Date: Teacher: Parent Sign:

19. A shape is made of a 12 cm by 5 cm rectangle with an isosceles triangle (base 4 cm, height 3 cm) attached along one 4 cm side. Find the total area.

20. A house-shaped figure: a 10 m by 6 m rectangle with an isosceles triangular roof of base 10 m and height 4 m. What is the total area (house + roof)?

21. A composite figure is made of two rectangles: 9 cm by 4 cm and 6 cm by 4 cm placed side by side, with a right triangle of base 6 cm and height 4 cm attached to one short end. Find the total area.

22. A rectangular playground is 20 m by 12 m. A triangular flower bed (base 8 m, height 6 m) sits inside one corner, but its area should be included. What is the combined area of the playground and the flower bed?

23. A shape is formed by a 14 cm by 6 cm rectangle with a smaller rectangle 6 cm by 2 cm removed from the middle of one long side (a notch). Find the area of the remaining shape.

24. A composite figure is made by a 7 cm by 7 cm square and a right triangle (base 7 cm, height 4 cm) attached to one side. Find the total area.

25. A figure consists of a 10 cm by 4 cm rectangle and on top of it a semicircular arch with diameter 10 cm. (Take area of semicircle as $(\frac{1}{2})?r^2$. Give the exact area in terms of ?.)

26. A pool is shaped like a rectangle 16 m by 6 m with a small triangular shallow end removed (triangle base 6 m, height 2 m). Find the area of the pool water surface.

27. A composite figure is built from three rectangles: 5 by 3, 7 by 3, and 4 by 3 (all heights 3 cm) joined in a row. Find the total area.

28. A figure is a 12 cm by 8 cm rectangle with a triangle of base 8 cm and height 4 cm attached to one short side. Find the total area.

29. A right triangle with base 15 cm and height 8 cm is attached to a rectangle 15 cm by 5 cm along the base. Find the combined area.

30. A notch-shaped figure: start with a 10 cm by 8 cm rectangle and remove a 4 cm by 3 cm rectangle from one corner. Find the remaining area.

31. A trapezoid-shaped garden can be split into a rectangle of width 6 m and height 4 m plus two right triangles on the sides. If the trapezoid's parallel sides are 10 m and 4 m with height 4 m, find the total garden area by splitting it into parts.

32. A figure is a 9 cm by 6 cm rectangle with a triangle (base 9 cm, height 2 cm) added on top. What is the area?

33. A roof shape: two congruent right triangles (base 8 m, height 3 m) attached to the ends of a rectangle 8 m by 4 m. Find total area.

34. A composite figure consists of a rectangle 18 cm by 5 cm and a right triangle (base 5 cm, height 4 cm) attached to one 5 cm side. Find the total area.

35. A shape made by a 20 m by 3 m rectangle and a semicircle with diameter 3 m attached to one long side. Give the exact area in terms of ? for the semicircle, and total area in terms of ?.

Area of quadrilateral with 2 parallel sides (trapezoid) (36-50)

36. Find the area of a trapezoid with bases 12 cm and 8 cm and height 5 cm.

37. A trapezoidal field has parallel sides 30 m and 18 m and height 10 m. What is its area?

38. A trapezoid has bases 9 cm and 5 cm with height 6 cm. What is its area?

39. The cross-section of a ramp is a trapezoid with bases 4 ft and 2 ft and height 3 ft. Find its area.

40. A trapezoid pool has shallow base 10 m, deep base 16 m, and depth (height) 4 m. What is the area of the cross-section?

41. A trapezoid's bases are 14 cm and 6 cm and the height is 5 cm. What is the area?

42. A trapezoid-shaped garden bed has bases 7 m and 3 m and height 2 m. What is the area?

43. A trapezoid has bases 20 cm and 12 cm. If the area is 128 cm^2, what is the height?

44. A trapezoid has equal legs (isosceles trapezoid). Bases are 18 cm and 10 cm, height 4 cm. Find its area.

45. A trapezoid has top base 6 m, bottom base 14 m, and height 5 m. A gardener plants grass that costs $2 per square meter. How much will the grass cost for the trapezoid area?

46. A trapezoid-shaped floor tile has bases 9 in and 5 in with height 4 in. If tiles are sold by area and cost $0.10 per square inch, what is the cost of one tile?

47. A trapezoid has bases 11 cm and 7 cm and height 8 cm. Find the area.

48. A trapezoid's bases measure 25 m and 15 m and its height is 6 m. What is the area?

49. A field shaped like a trapezoid has bases 48 m and 32 m and height 10 m. A farmer wants to seed it at 0.2 kg per square meter. How many kilograms of seed does the farmer need?

50. A trapezoid has bases 13 cm and 5 cm and the area is 72 cm^2. Find the height.