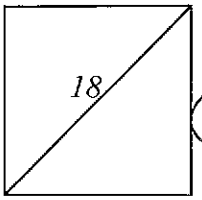
Honors Geometry
Practice 11-1 to 11-3

Name Key

Find the areas of the following.

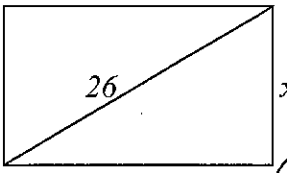
1.



square

162

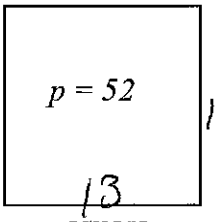
2.



rectangle

10
24
240

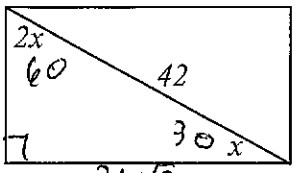
3.



square

169

4.



21

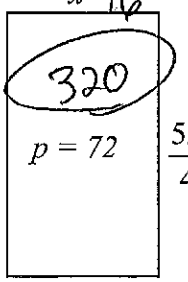
$3x = 90$
$x = 30$

$21\sqrt{3}$

rectangle

$441\sqrt{3} = 763.8$

5.



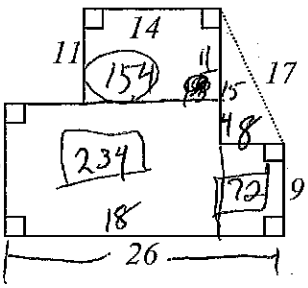
320

$\frac{5x}{4}$ 20

$2x + \frac{10x}{4} = 72$

rectangle

6.



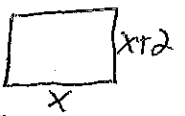
460

Solve the following word problems.

$4x + 5x = 144$
$9x = 144$ $x = 16$

7. A rectangle has base and height which are consecutive even integers. If the area is 20 more than the square of the shorter side, what is the area of the rectangle?

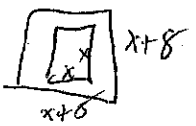
$x^2 + 2x = 20 + x^2$ $x = 10$ 120



$A = x^2 + 2x$

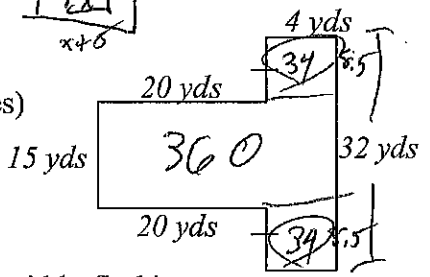
8. A square pool has a walkway around it which is 4 feet wide. If the area of the walkway is 384 square feet, find the area of the pool.

400



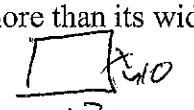
9. How much will it cost to pave the driveway shown if the total costs (including blacktop) are $12 per square yard? (all angles are right angles)

428



10. The perimeter of a room is 46 units, and its length is 3 more than its width, find its area.

130



$2x + 2x + 6 = 46$
$4x = 40$
$x = 10$

Answer #'s 11-13 with Always, Sometimes, or Never

11. A scalene triangle has three altitudes of equal length. Never

12. Area of an equilateral triangle is $\frac{s^2\sqrt{3}}{4}$ Always

13. Figures that have equal areas are congruent. Sometimes

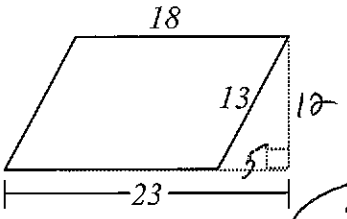
14. The area of a trapezoid is $A = \frac{1}{2}mh$ Never

15. An isosceles triangle has three altitudes of equal length. Sometimes

16. The area of a square inscribed in a circle of diameter d is $\frac{1}{2}r^2$ Never

For #'s 14-23, find the areas of the given figures.

17.

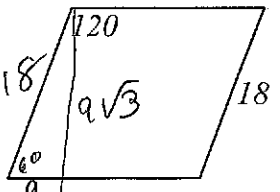


parallelogram

$18 \cdot 12$

216

18.



rhombus

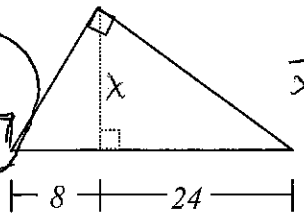
$162\sqrt{3}$

$= 280.6$

19.

$128\sqrt{3}$

$= 221.7$



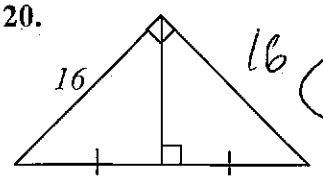
$\frac{8}{x} \quad \frac{x}{24}$

$x^2 = 8 \cdot 8 \cdot 3$

$x = 8\sqrt{3}$

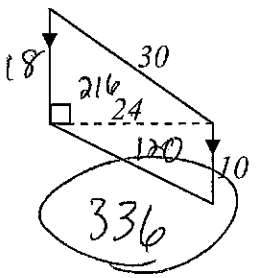
$A = \frac{1}{2} 32 \cdot 8\sqrt{3}$

20.



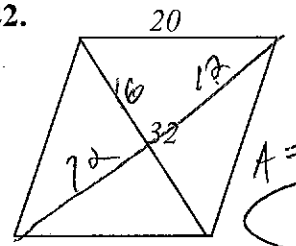
128

21.



336

22.

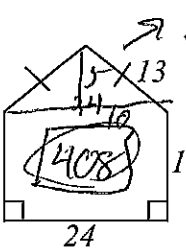


rhombus

$A = \frac{1}{2} 32 \cdot 24$

384

23.

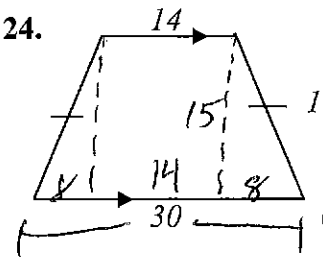


$\frac{1}{2} 24 \cdot 5$

60

$A = 468$

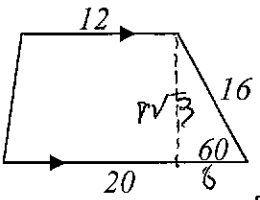
24.



$A = \frac{1}{2} \cdot 44 \cdot 15$

330

25.

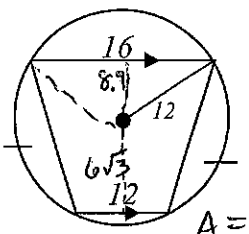


$A = \frac{1}{2} \cdot 32 \cdot 8\sqrt{3}$

$128\sqrt{3}$

$= 221.7$

26.

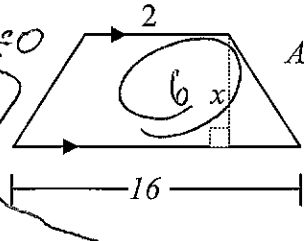


$A = \frac{1}{2}(16+12) \cdot 19.29$

≈ 270

Find the value of *x* for each of the following.

27.



$A = 75$

$75 = \frac{1}{2}\left(16 + \frac{3x}{2}\right)x$

$150 = 16x + \frac{3x^2}{2}$

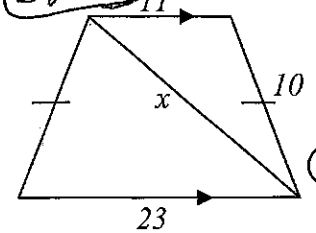
$300 = 32x + 3x^2$

$3x^2 + 32x - 300 = 0$

$(3x \quad)(x-6)$

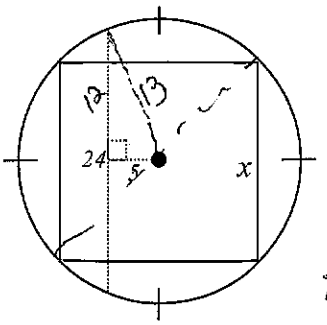
$x = 6$

28.



$x = 18.8$

29.

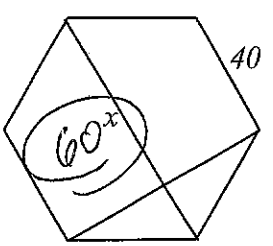


$d_1 = 26$

$A = \frac{1}{2} 26 \cdot 26$

338

30.



regular hexagon