1. $\boxed{C}$ It's always 180.

2. $1^2 + 2^2 \neq 3^2$, so $\boxed{D}$

3. Since the base equals the height, we have $\frac{1}{2} \bullet \frac{1}{2} \bullet \frac{1}{2} = \frac{1}{8}\ un^2$ $\boxed{B}$

4. $\pi r^2 = 4\pi$, so the radius is 2, and the circumference is $2\pi r = 4\pi$ $\boxed{D}$

5. We need to have $(2x-7)+(4x+2) < 5x+9$, so $x < 14$ will have the figure not being a triangle. $\boxed{A}$

6. We take the midpoint of side YZ, which is $\left(\frac{-2-2}{2}, \frac{3-5}{2}\right) = (-2,-1)$ $\boxed{C}$

7. $\boxed{A}$

8. Let the area of them be A. So the side length of the square is $\sqrt{A}$, and the perimeter is $4\sqrt{A}$. The radius of the circle is then $\sqrt{\frac{A}{\pi}}$, of which the circumference is $2\pi\sqrt{\frac{A}{\pi}}$. The side length of the triangle is $\sqrt{\frac{4A}{\sqrt{3}}}$, so the perimeter is $3\sqrt{\frac{4A}{\sqrt{3}}}$. The question is which is largest, of which the triangle's is, about 7.89. $\boxed{D}$

9. It passes through the midpoint of the two points, which is (3, -1). And it is perpendicular to the y-direction, so it is x = 3. $\boxed{B}$

10. Since p is true, and p implies, q, then q must be true as well. $\boxed{C}$

11. We have a right triangle of which one leg is the distance between the chord and the diameter, which is 2. The other leg is half the length of the chord, or 5. And the length of the hypotenuse is the radius of the circle. So the radius is $\sqrt{29}$, so the area is $29\pi \approx 91$ $\boxed{B}$

12. The bigger square's area is 2A, so its side length is $\sqrt{2}$, and the regular square's side length is 1, so it is $\boxed{A}$.

13. Just the first two; same side interior are supplementary: $\boxed{A}$

14. $2(8+24+12) = 88$ $\boxed{D}$

15. $\boxed{A}$ Only I and III are true.

16. If we add 4 to each dimension we have a 24 by 20 foot area, which is 480 feet squared, and we subtract the original area, which is 320, for 160. $\boxed{C}$

17. We have $30h - 5.5m = 30(6) - 5.5(15) = 97.5$ $\boxed{B}$

18. $\frac{360}{12} = 30$ $\boxed{B}$

19. $\frac{8}{12} = \frac{EF}{9},\ EF = 6 \qquad \frac{8}{12} = \frac{DF}{14} \quad DF = \frac{28}{3}.\ 6 + 8 + \frac{28}{3} = \frac{70}{3}$ $\boxed{A}$

20. AD is the geometric mean between BD and CD, so $\frac{CD}{4}=\frac{4}{6}$, so CD = 8/3.

And AC is the geometric mean between CD and BC, so $\frac{\frac{8}{3}}{AC}=\frac{AC}{\frac{26}{3}}$, so AC =

$\frac{\sqrt{208}}{3}=\frac{4\sqrt{13}}{3}$ $\boxed{D}$

21. $\sqrt{63+65}=\sqrt{128}=8\sqrt{2}$ $\boxed{C}$

22. For n = 9,

$\frac{n(n-3)}{2}+180(n-2)+360+n+1=27+1260+360+9+1=1657$ $\boxed{E}$

23. Angle A is 60 degrees, and since that is 60, and the other two sides are the same, then all the angles are 60 degrees, and triangle ADE is an equilateral triangle. $\frac{\sqrt{3}}{4}(3^2)=\frac{9\sqrt{3}}{4}$ $\boxed{A}$

24. Their intersection can be nothing, a line, or another plane. I only $\boxed{A}$

25. The smallest number it could be in order for a triangle would have to be greater than 2 (7 – 5). Now we need $5^2+7^2>c^2$, because of the Pythagorean Theorem, so $c<\sqrt{74}$. $\boxed{B}$

26. The x-intercept is x = 13, and the y-intercept is y = 7, so it is a right triangle with legs of these lengths, so the area is $\frac{1}{2}\bullet 7\bullet 13\approx 46$ $\boxed{D}$

27. $\sqrt{(-5-2)^2+(3--5)^2}=\sqrt{49+64}=\sqrt{113}$ $\boxed{C}$

28. $\frac{n(n-3)}{2}=100$. Trying the numbers, or solving using the quadratic formula, the first polygon with more than 100 diagonals is the 16-gon. $\boxed{B}$

29. We use the formula: $\frac{ab}{a+b}=\frac{4(8)}{4+8}=\frac{32}{12}$ + $\frac{1}{12}=\frac{33}{12}=\frac{11}{4}$ $\boxed{B}$

30. $\boxed{C}$