Answers to Combination Questions:

1. 75.7 degrees
2. A(0, 30) B(18, 27) C(22.5, 18.75) D(30, 15) E(24, 16)

   mBC = $\frac{3\sqrt{157}}{4}$ and mCE = $\frac{\sqrt{157}}{4}$ then m BC = 3(mCE)
   mAC = $\frac{45\sqrt{5}}{4}$ mCD = $\frac{15\sqrt{5}}{4}$ ---> mAC =3(mCD)

   And since m∠BCA = m∠ECD (vert opp angles) then $\Delta ABC \sim \Delta DEC$ by SAS

3. $y = -(x-12)^2 + 16$

4. 240 square metres

5. 71.6 degrees

6. Perimeter: (6x + 14) units / x > ⅓

7. 40 square units

8. 53.1 degrees

9. The interval is]96, 100]

10. 27.4 units

11. 16.2 units

12. 53 degrees

13. $g(x) = (x-5)^2 - 10$ h(x): $\frac{x}{6} + \frac{y}{-12} = 1$

14. A(3,0) B(12, 6) C(10, 0) D(6, -12) E(24, 0)

    mAC = 7 and mCE = 14
    mBC = $2\sqrt{10}$ and mCD = $4\sqrt{10}$
    mAB = $3\sqrt{13}$ and mDE = $6\sqrt{13}$ so, $\Delta ABC \sim \Delta EDC$ by SSS
    (or SAS if we state that angle BCA & ECD are vertically opposite!)

15. 112.5 degrees