Answers
for Grade 12 Group Assignments - Quarter #3

<u>Notes</u>:
- Answers for group assignment problems that are out of the workbook can be found in the file named "G12 – Workbook Answers…".
- This answer key doesn't include all answers.

Week 17 No answers needed

Week 18

<u>The parabola "extra challenge".</u>
Call a random point on the curve (x,y), such that the distance from this point to the focal point (7,11) is equal to the distance from (x,y) to a point (c,d) on the directrix line. This leads to the equation
$(x-c)^2 + (y-d)^2 = (x-7)^2 + (y-11)^2$
We arrive at a second equation because the directrix line has the equation $y = -\frac{2}{3}x + 7$, so the point (c,d) on this line gives us $d = -\frac{2}{3}c + 7$. The third equation comes from the slope of the line connecting (x,y) and (c,d), which must be equal to $\frac{3}{2}$, leading to the equation $\frac{y-d}{x-c} = \frac{3}{2}$

The work is shown below.

Week 19-24 No answers needed