Answers and mark guide

Q	Answer	Working	Marks
1	**4/3**	4 ÷ 3	3
2	**−4/3**	4 ÷ −3	3
3	**−3/4**	3 ÷ −4	3
4	**−4/3**	−4 ÷ 3	3
5	**12/5**	12 ÷ 5	3
6	**−4/3**	The tangent is perpendicular to OP: −1 ÷ (3/4)	4
7	**3/4**	The tangent is perpendicular to OP: −1 ÷ (−4/3)	4
8	**−4/3**	The tangent is perpendicular to OP: −1 ÷ (3/4)	4
9	**−3/4**	The tangent is perpendicular to OP: −1 ÷ (4/3)	4
10	**−12/5**	The tangent is perpendicular to OP: −1 ÷ (5/12)	4
11	**y = −(3/4)x + 25/4**	Gradient −3/4; use P to find c = 25/4	5
12	**y = (3/4)x + 25/4**	Gradient 3/4; use P to find c = 25/4	5
13	**y = (4/3)x + 25/3**	Gradient 4/3; use P to find c = 25/3	5
14	**y = (3/4)x − 25/4**	Gradient 3/4; use P to find c = −25/4	5
15	**y = −(5/12)x + 169/12**	Gradient −5/12; use P to find c = 169/12	5
16	**Shown**	Gradient −a/b gives y − b = −(a/b)(x − a), so ay… = $a^2 + b^2 = r^2$	6
17	**y = (3/4)x + 55/4**	Radius gradient −4/3; tangent gradient 3/4	6
18	**x = 5**	The radius is horizontal so the tangent is vertical.	4
19	**y = −(3/4)x + 15**	Radius gradient 4/3; tangent gradient −3/4	6
20	**y = 13**	The radius is vertical so the tangent is horizontal.	4

My score: _____ / **86** Questions 1–15 = 60 marks (Foundation focus)