

2018 John O'Bryan Mathematical Competition
Junior-Senior Individual Test

1. -6

11. 387

2. $\frac{mp}{m + pr}$

12. 14

3. (2,7) **Must be this ordered pair.**

13. -1

4. (3,2) **Must be this ordered pair**

14. $\frac{3}{7}$ **Must be this reduced fraction.**

5. 110 **(degrees optional)**

15. $\frac{k}{2w}$

6. $\frac{24}{25}$ **Must be this reduced fraction.**

16. $8\sqrt{11}$ **Must be exactly this answer.**

7. $\frac{15}{29}$ **Must be this reduced fraction.**

17. 1017

8. 7

18. $\frac{14}{5}$ **Must be this reduced fraction.**

9. 8073

19. 18

10. $-\frac{15}{17} - \frac{9}{17}i$ **Must be exactly this answer.**

20. $30\sqrt{2}$ **Must be exactly this answer.**