



**Intermediate Math Circles**  
**February 12, 2014**  
**Contest Preparation II**  
**Answers to Problem Sets 3, 4, and 5**

Answers to Problem Set 3:

- |    |    |     |   |    |             |    |                 |
|----|----|-----|---|----|-------------|----|-----------------|
| 1. | C  | 2.  | B | 3. | $110^\circ$ | 4. | $8 + 8\sqrt{3}$ |
| 5. | 21 | 6.  | 7 | 7. | E           | 8. | B               |
| 9. | D  | 10. | E |    |             |    |                 |

Answers to Problem Set 4:

- |     |   |     |   |     |   |     |   |
|-----|---|-----|---|-----|---|-----|---|
| 1.  | D | 2.  | A | 3.  | A | 4.  | C |
| 5.  | E | 6.  | B | 7.  | D | 8.  | E |
| 9.  | C | 10. | E | 11. | D | 12. | D |
| 13. | C |     |   |     |   |     |   |

Answers to Problem Set 5:

- |    |   |     |   |     |   |     |   |
|----|---|-----|---|-----|---|-----|---|
| 1. | B | 2.  | D | 3.  | D | 4.  | B |
| 5. | C | 6.  | D | 7.  | E | 8.  | B |
| 9. | E | 10. | C | 11. | D | 12. | E |