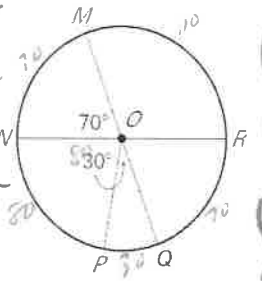
Practice

Find the measure of each indicated arc and classify it as minor, major, or semicircle.

12. $m\overset{\frown}{MN}$ 70 minor
13. $m\overset{\frown}{NQ}$ 110 minor
14. $m\overset{\frown}{NQR}$ 180 semi.
15. $m\overset{\frown}{MRP}$ 290 major
16. $m\overset{\frown}{QR}$ 70 minor
17. $m\overset{\frown}{MR}$ 110 minor
18. $m\overset{\frown}{QMR}$ 290 major
19. $m\overset{\frown}{PQ}$ 30 minor
20. $m\overset{\frown}{PRN}$ 250 major
21. $m\overset{\frown}{MQN}$ 250 major



Practice

Find the indicated measure.

1. $m\angle 1$ 158
2. $m\angle A$ 12
3. $m\angle B$ 90
4. $m\overset{\frown}{BC}$ 80
5. $m\overset{\frown}{BC}$ 152
6. $m\overset{\frown}{BC}$ 140

Practice

Find $m\overset{\frown}{x}$ 1.

4. 56
5. $\frac{1}{2}(140+116)$ 128
6. $\frac{1}{2}(108-34)$ 37
7. $\frac{1}{2}(243-117)$ 63
8. 109
9. 133

Practice

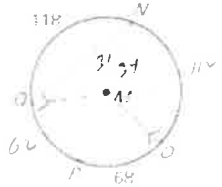
In Exercises 13–18, find the value of x.

13. $51 = \frac{1}{2}(35+x)$ 67
14. 70
15. 61
16. $61 = \frac{1}{2}((10x+1)-(5x-1))$ 7
17. $35 = \frac{1}{2}((17x+6)-(7x-2))$ $35 = \frac{1}{2}(10x+8)$ 24
18. $54 = \frac{1}{2}((13x-6)-(5x+14))$ $= \frac{1}{2}(8x-20)$ 16

Practice

Find the indicated measure in ⊙M.

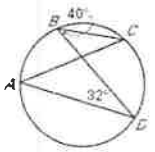
10. $m\angle PNO$ 34
11. $m\angle QNP$ 31
12. mPQ 62
13. mQO 130
14. $m\angle MO$ 112
15. $mNOP$ 180
16. $m\angle QMP$ 62
17. $mOQN$ 248



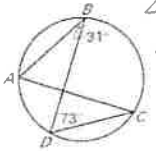
Practice

Find $m\angle A$ and $m\angle C$.

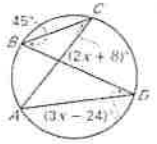
29. $\angle A = 40$ $\angle C = 32$



30. $\angle A = 73$ $\angle C = 31$



31. $\angle A = 45$



$2x + 8 = 3x - 24$

$32 = x$

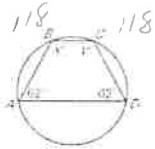
$\angle C = 2(32) + 8$

72

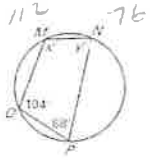
Practice

Find the values of the variables.

23. 118 118



24. 112 76



25. 90 82