NAME:_____

1. For a circle of radius 7 feet, find the arc
    length s cut off by a central angle of $6°$.

    [A] $s = 42\pi$ feet   [B] $s = \dfrac{7}{10}\pi$ feet

    [C] $s = \dfrac{7}{30}\pi$ feet   [D] $s = \dfrac{7}{15}\pi$ feet

2. For a circle of radius 5 feet, find the arc
    length s cut off by a central angle of $18°$.

    [A] $s = 90\pi$ feet   [B] $s = \dfrac{3}{2}\pi$ feet

    [C] $s = \dfrac{1}{2}\pi$ feet   [D] $s = 1\pi$ feet

3. For a circle of radius 4 feet, find the arc
    length s cut off by a central angle of $12°$.

    [A] $s = 48\pi$ feet   [B] $s = \dfrac{4}{5}\pi$ feet

    [C] $s = \dfrac{4}{15}\pi$ feet   [D] $s = \dfrac{8}{15}\pi$ feet

4. For a circle of radius 8 feet, find the arc
    length of a central angle of $60°$. Leave your
    answer in terms of π.

5. For a circle of radius 7 feet, find the arc
    length of a central angle of $30°$. Leave your
    answer in terms of π.

6. For a circle of radius 5 feet, find the arc
    length of a central angle of $24°$. Leave your
    answer in terms of π.

7. The circumference of a circle is 116π cm.
    Find the diameter, the radius, and the length
    of an arc of $50°$.

8. A circle has a radius 4 ft. Use a calculator to
    find the length of an arc intercepted by an
    angle of $\dfrac{\pi}{3}$ to the nearest tenth.

9. A circle has center (0, 0) and radius 6. The
    vertices of regular hexagon *ABCDEF* are on
    the circle. How long is $\overset{\frown}{AB}$? Leave your
    answer in terms of π.

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10. A ⊙ O centered at $(0, 0)$ and with radius 4 is transformed by a dilation centered at the origin with scale factor 2.5. Find the length of arc $A'B'$ on ⊙ O' if A and B are on ⊙ O and $m\angle AOB = 144$. Leave your answers in terms of π.

11. Compare the quantity in Column A with the quantity in Column B.
    Column A   Column B
    the arc intercepted by an angle   the arc intercepted by an angle

    of $\dfrac{2\pi}{3}$ in circle X   of $\dfrac{3\pi}{2}$ in circle Y

    [A] The quantity in Column A is greater.   [B] The quantity in Column B is greater.

    [C] The two quantities are equal.

    [D] The relationship cannot be determined on the basis of the information supplied.

12. A circle has center $(2, 0)$ and contains $A(-4, 0)$. Find a point B so that $m\overarc{AB} = 90$.

13. The circle $x^2 + y^2 = 25$ contains $A(-3, 4)$ and $B(3, 4)$. Find $m\overarc{AB}$.

[1] C

[2] C

[3] C

[4] $\dfrac{8}{3}\pi$ feet

[5] $\dfrac{7}{6}\pi$ feet

[6] $\dfrac{2}{3}\pi$ feet

[7] 116 cm; 58 cm; 16.11π cm

[8] 4.2 ft

[9] 2π units

[10] 8π

[11] D

[12] (2, 6) or (2, -6)

[13] about 74