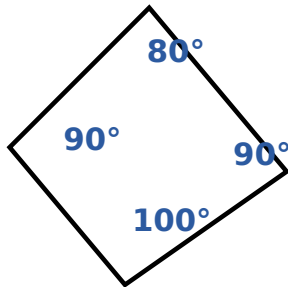# ANGLES IN QUADRILATERALS

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS
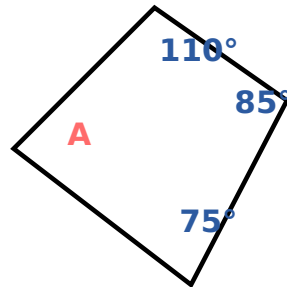
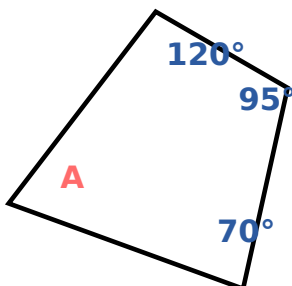1. Find the missing angles in this diagram.

80°
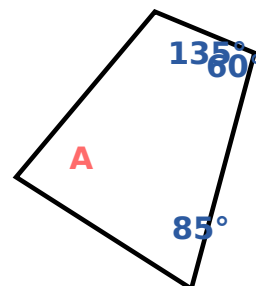90°   90°
100°

90°

2. Find the missing angles in this diagram.

110°
85°
A
75°

90°

3. Find the missing angles in this diagram.

120°
95°
A
70°

75°

4. Find the missing angles in this diagram.
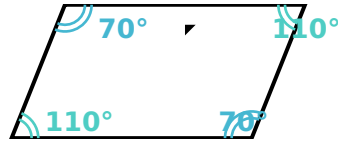

135° 60°
A
85°

80°

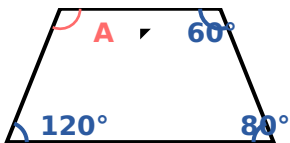5. Find the missing angles in this diagram.

150° 80°

65°

65°
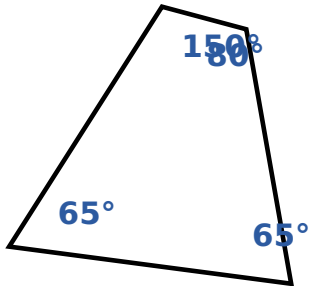
65°

6. In a parallelogram, three angles are 110°, 70°, and 110°. Find the fourth angle.
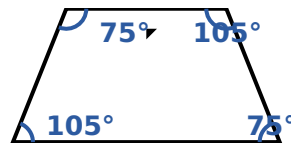
70° 110°

110° 70°

70°

7. A kite has angles 120°, 80°, and 60°. Determine the missing angle.
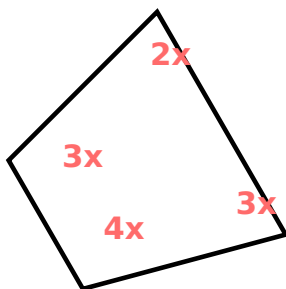
A 60°

120° 80°

100°

8. In a trapezium, three angles measure 105°, 75°, and 105°. Find the fourth angle.
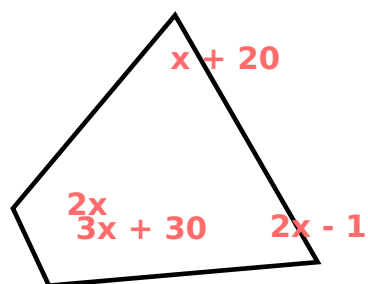
75° 105°

105° 75°

75°
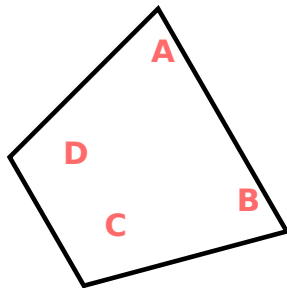
9. Find the missing angles in this diagram.

2x

3x

3x
4x

$x = 30°$, angles: 60°, 90°, 120°, 90°
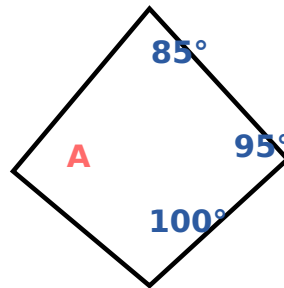
10. Find the missing angles in this diagram.

x + 20

2x
3x + 30   2x - 1

$x = 40°$, angles: 60°, 70°, 150°, 80°

11. Find the missing angles in this diagram.

A

D

C   B

60°, 90°, 120°, 90°

12. Find the missing angles in this diagram.

85°

A   95°

100°

80°

13. Find the missing angles in this diagram.

3y

6y

5y   4y
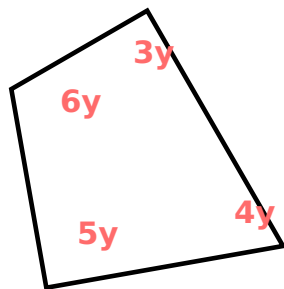
y = 20°, angles: 60°, 80°, 100°, 120°

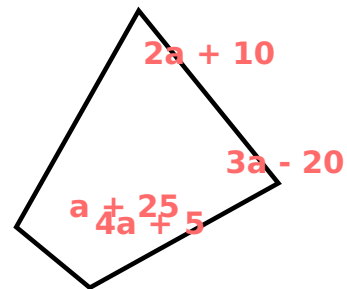14. Find the missing angles in this diagram.

2a + 10

3a - 20

a + 25
4a + 5

a = 34°, angles: 78°, 82°, 141°, 59°

15.

MASTER QUESTIONS

M1. Find the missing angles in this diagram.

```
        115°
           85°
   A
        70°
```
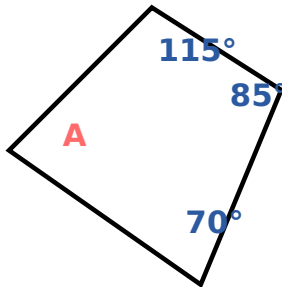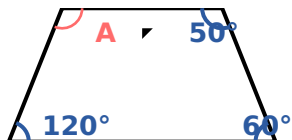
90°

M2. Find the missing angles in this diagram.
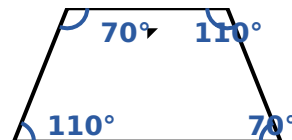
```
        100°
            80°
   A
        95°
```
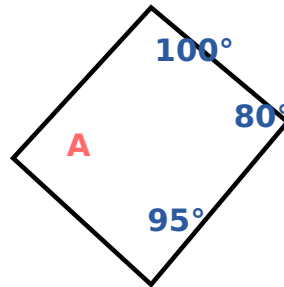
85°

M3. A playground is designed as a kite-shaped quadrilateral. Three of its angles measure 120°, 60°, and 50°. What must the fourth angle be to maintain the kite shape?

```
   A      50°
 120°       60°
```
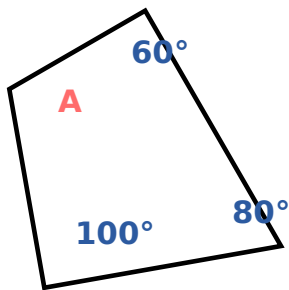
130°

M4. A farmer's field is trapezium-shaped. Three angles of the field measure 110°, 70°, and 110°. What is the measure of the fourth angle to ensure the field boundaries are correct?

```
   70°    110°
 110°       70°
```

70°

M5. Find the missing angles in this diagram.

60°

A

100°   80°

120°