(2) 31x5 divisible by 3?

→ 3 + 1 + x + 5 = divisible by 3.
→ 9 + x = (3, 9, 12, 15, 18, ...) multiple of 3.

• x = 9 − 9 = 0 ✓
= x = 12 − 9 = 3 ✓
= x = 15 − 9 = 6 ✓
= x = 18 − 9 = 9 ✓

= So, x = 0, 3, 6, 9 and so on.

(4) 24x divisible by 6?

→ 2 + 4 + x = divisible by 6.
= 6 + x = (6, 12, 18, ..) multiples of 6
= x = 6 − 6 = 0 ✓
= x = 12 − 6 = 6 ✓
= x = 18 − 6 = 12 ✓
= So, x = 0, 6, because it is divisible by 6.

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(5) 3x 26 a multiple of 6?

→ 3 + x + 2 + 6 = 0, 6, 9, 12, 15, ..18,

= 11 + x = 0, 6, 9, 12, 15, 18, 21

= x = even number.

= x = 12 - 11 = 1

= x = 15 - 11 = 4

= x = 18 - 11 = 7

= x = 21 - 11 = 10

So, x = 1, 4 | 7 because the no. 3x26 has even no. at its unit's place and is also divisible by 3.

CW

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(6) 42x8 is divisible by 4?

→ x8 = divisible by 4.

= 10x + 8 = 28, 48, 68, 88 ....

= 10x = 28 - 8

= x = 20/10 = 2.

or

• 10x = 48 - 8 = 40

= x = 40/10 = 4.

or

• 10x = 68 - 8 = 60

• x = 60/10 = 6.

or

= 10x = 88 - 8 = 80

= x = 80/10 = 8.

So, x = 2, 4, 6 and 8.

(8) 7x34 divisible by 9.

→ 7 + x + 3 + 4 = divisible by 9.

= 14 + x = 9, 18, 27, 36 ....

= x = 18 - 14 = 4

= x = 27 - 14 = 13

= x = 36 - 14 = 22

So, x = 4.