

CLASSIFICATION OF QUESTIONS

This is an index of Competition questions for the years 2012 to 2016 and is directed at students and general readers who are interested in problems of a particular type. The index is also intended for use by classroom teachers in search of exercises on particular sections of the curriculum.

This year, questions have been classified using the Australian Curriculum Strands. This means that some questions from earlier years may have been reclassified compared with earlier editions of *AMC Solutions and Statistics*. Algebra includes pre-algebra (algebraic ideas which may not use formal pronumerals). Any such classification is problematic and some questions may appear under more than one heading. If a question appeared in more than one paper in a year, this is indicated in the bracketed reference.

Australian Mathematics Competition Books 1 – 5 contain questions and solutions grouped into topics from the AMC from 1978 to 2012 and can be purchased from AMT publishing at www.amt.edu.au. Please note, however, that these books use the earlier classification system.

MIDDLE AND UPPER PRIMARY		
CLASSIFICATION	YEAR	QUESTION
NUMBER		
Decimals	2012	UP5
	2013	UP2, UP9
	2014	MP7, UP10
	2015	UP5, UP12
	2016	UP4
Fractions	2012	MP4, MP14, MP16, UP10
	2013	MP4 (UP1), MP20 (UP10), MP27, UP6, UP9, UP14
	2014	UP12, UP18
	2015	MP4, MP21, UP10
	2016	UP13
Integers (Arithmetic operations)	2012	MP1, MP15, MP19 (UP16), UP1
	2013	MP1, MP3, MP5, MP9, UP5, UP19, UP29
	2014	MP1, MP3, MP9, MP18, UP1, UP3
	2015	MP2, MP8 (UP4), MP13, MP16 (UP16), MP20 (UP15), MP27, UP7, UP8
	2016	MP20, UP7, UP19
Money	2012	UP18
	2013	MP11 (UP4), MP23, MP25 (UP20)
	2014	MP4, MP22, UP5
	2015	MP21, UP2, UP25
	2016	MP10 (UP5), MP25
Number properties	2012	MP17 (UP12)
	2014	MP14 (UP3)
	2015	MP1, MP22, UP22
	2016	MP1, MP2 (UP1), UP14, UP27
Percentage	2012	UP11
	2016	UP25

Place value	2012	MP3, MP8
	2013	MP9, MP14, UP2, UP5, UP11
	2014	UP10, UP20
	2015	UP1, UP5, UP22
	2016	MP3, MP11, UP1
Prime numbers	2012	UP13
	2014	UP28
	2016	MP30
Multiplicative thinking	2012	MP5 (UP2), UP15, UP28
	2013	MP16, MP18, MP26, MP30 (UP28), UP3, UP14, UP22, UP26
	2014	MP23, UP16
	2015	MP11, MP18, MP25, UP7, UP23, UP24, UP25
	2016	MP6 (UP2), MP8, MP10, MP29 (UP28), MP30
ALGEBRA (including Pre-algebra)		
Skip counting	2013	MP13
Working backwards	2012	MP11
	2013	MP7, MP10, UP3, UP8
	2014	MP13, UP5, UP15
	2015	MP8
Algebraic reasoning	2012	MP22, MP27, UP23, UP30
	2013	MP12, MP21, MP25 (UP20), MP26, UP11, UP17, UP19
	2014	MP10, MP24, MP28, MP29, UP23, UP29
	2015	MP24, MP25
	2016	MP4, MP24 (UP22), MP29 (UP28), UP18, UP30
Sequences/Patterns	2012	UP27
	2013	MP19
	2014	MP29, UP27
MEASUREMENT		
Area/Perimeter	2012	MP2
	2014	MP17, UP11
	2015	MP9, MP19, MP23, UP6, UP14, UP19
	2016	MP18 (UP12), UP12, UP15
Metric system	2015	UP3
Speed, Distance, Time	2012	UP8, UP15, UP19, UP26
	2013	MP3
	2014	MP13, UP22

Time	2013	MP17, UP13
	2014	MP2, MP13
	2015	MP6, UP28
	2016	MP7
Volume	2012	UP4
	2016	UP9
GEOMETRY		
Angles	2012	UP6
Area/Perimeter	2012	MP7, MP28 (UP22), UP14
	2013	MP24 (UP21), MP27, UP12, UP15, UP23
	2014	MP21 (UP13), UP17, UP19
	2015	MP28 (UP26)
	2016	UP12
Coordinates	2012	MP10 (UP9)
	2013	MP8
	2015	MP3
Cubes	2012	MP12, MP23, MP26 (UP25)
	2013	MP2
	2014	UP6
Other 3D shapes	2012	UP24
	2014	MP8 (UP2)
	2015	UP20
Polygons	2012	MP9 (UP7), MP30 (UP29)
	2013	UP13
	2014	MP15 (UP9)
	2015	MP17 (UP17), UP13
	2016	UP17
Quadrilaterals	2012	MP25 (UP21)
	2014	MP19
Symmetry and reflection	2013	MP6
	2014	MP5, MP6
	2015	MP12 (UP11)
	2016	MP5, MP19, UP10
Tessellation	2012	MP9 (UP7)

Triangles	2012	UP17
	2013	MP15 (UP7)
	2014	UP19
	2015	MP12 (UP11)
	2016	UP3
Volume	2013	UP18
STATISTICS		
Interpreting graphs and data	2013	MP18
	2014	MP12 (UP4)
	2015	MP7, MP10
	2016	MP16
PROBABILITY		
Simple events	2014	MP20
	2015	MP5
Compound events	2012	MP6 (UP3)
	2013	UP16
PROBLEM SOLVING		
Logic	2012	MP10 (UP9), MP18, MP24 (UP20)
	2013	MP22, MP23, MP24 (UP21), MP30 (UP28), UP17, UP24, UP26
	2014	MP11, MP14, (UP3), MP16, UP14, UP20, UP21, UP24
	2015	MP14 (UP9), MP15, MP22, UP18, UP21
	2016	MP9 (UP6), MP12, MP14, MP15 (UP11), MP20, MP21, MP23 (UP21), MP27, UP20, UP23, UP26
Enumeration	2012	MP13, MP20, MP21, MP29, UP17, UP18
	2013	MP15 (UP7), MP28, MP29 (UP27), UP30
	2014	MP27, MP30, UP8, UP26, UP29, UP30
	2015	MP26, MP30 (UP29), UP27, UP30
	2016	MP13 (UP8), MP17, MP22, MP26, MP28, UP16, UP29
Extreme value	2013	UP25, UP29
	2014	MP26, UP25, UP28
	2015	MP28 (UP26), MP29, UP12, UP14
	2016	UP24

JUNIOR, INTERMEDIATE AND SENIOR

CLASSIFICATION	YEAR	QUESTIONS
NUMBER		
Approximation	2011	J14
	2012	J7, J23
	2013	J3, I9, S4
	2014	S13
Decimals	2012	J4, J7, I1, S1
	2013	J8, S1
	2014	J5 (S2), I4
	2015	I4
	2016	J8
Exponents	2012	I17, I25, S6, S12, S16, S25
	2013	I29
	2014	J13, S1, S6, S13
	2015	I3
	2016	S11
Expressions	2012	J21 (I21), I1, S1
	2013	J4
Fractions	2012	J6 (I4), J9, J10 (I5, S2), J16 (I10), I6, I20
	2013	J3, S1
	2014	J6 (I5), S6
	2015	J7 (I2), J11, J18, I9, S12
	2016	J10 (I4), I2, I5
Integers	2012	J1, I8, I18, I29 (S28), S11, S25
	2013	J1, I1
	2014	J1, J14, I1, S9
	2015	J1, J9, I8, S1
	2016	J1, J4, I1
Mean	2012	I6, I8, I29 (S28), S11, S12
	2013	I4
	2014	J12, J16

Money	2012	J5, I2
	2013	J16
	2014	J4
	2015	J4, J24 (I19)
	2016	J7
Multiplicative Thinking	2016	J20, J26
Number Properties	2012	J14 (I9), J15, J18, J19, J23, J24, J26, J27, J29, J30 (I30, S29), I17, I18, I24, I29 (S28), S16, S25
	2013	J7 (I3), J17 (S10), J28, I7 (S5), I23, I26, I29, I30
	2014	J18, J23, I19
	2015	J13, J20
	2016	J26, S1
Percentage	2012	J12, I11
	2013	S3
	2014	S8
	2016	J5, I6
Prime Numbers	2012	J19
	2014	S28
	2015	J20
	2016	J20
Ratio	2011	I12, I29, S2, S22
	2012	J9, J22, J29, I14, I20, I22, S9, S13
	2013	I17, I22, S8, S9, S25, S29
	2015	J6, J21, J27, I7, S3
Surds	2011	J28 (S28), S23, S25
	2012	I13 (S10)
	2013	S23
	2015	I18
ALGEBRA		
Factorisation	2014	I29
Linear Equations	2012	I14, I23, I26, I29 (S28), S7
	2013	I4, S7
	2014	J16, I10, S5, S10
	2015	S16
	2016	J12, J24, I19 (S15)

Quadratic Equations	2012	I23, S19
	2013	I5, S18
	2014	I3 (S3), S14, S19
	2015	S18, S30
	2016	S22, S27
Simultaneous Equations	2013	J29, J30 (I27), I22, S15, S25
	2014	I28
	2015	S9
Roots of Equations	2012	I26, I27, I29 (S28), S19, S23
	2014	I18, I27, S30
	2015	I28, S2
	2016	S2, S8
Exponents	2012	I27, S21
	2015	S5
	2016	I14
Expressions	2012	I27, S5, S23
	2013	I7 (S5), I9, I13, S21, S23
	2014	I11
	2016	J16 (I7), S10
Fractions	2012	S5, S7
Functions	2013	S12
	2014	S20
	2016	S30
Inequalities	2013	I15
	2015	I17
	2016	S4
Sequences/Patterns	2013	J14, S6
	2014	J8 (I6), J26, I30 (S28), S25
	2015	I26 (S26)
MEASUREMENT		
Area/Perimeter	2013	I5, S13, S19
	2014	J3, I9, S4
	2015	J5 (I1), J8, J12, J17 (I11, S6), I10, I18, S8, S13
	2016	J11, J13, S5
Metric System	2012	J8, J12, I16, I21, S26

Speed, Distance, Time	2012	J16 (I10), J21 (I21), S26
	2013	J11, I8
	2014	I4, S18
	2015	J23, I12 (S10), I25
	2016	J9, I3
Time	2012	J3
	2013	J5
	2014	J9
	2015	J3
	2016	J3, I23
Volume	2012	S8
	2014	I13
GEOMETRY		
Angles	2012	J11 (S3), I3, I7, I15, S27
	2013	J2, J13 (I10), J18, J20, I2
	2014	J2 (I2), I15
	2015	J2, J25, S4
	2016	J2, I9, S14
Area/Perimeter	2012	J13, I16, I19, I22, I28, S15
	2013	J6, J19, I14, I18, S13, S27
	2014	J11, I20, I27, S8, S12
	2015	I20, I30, S29
	2016	J17, I8 (S3), I21, I26, S21
Circles	2012	I16, I28, S13, S24, S27
	2013	I16, I19, I22
	2014	J27, I15, I20, S4, S12
	2015	S15, S23
	2016	I13
Coordinate Geometry	2012	S4
	2013	J10, S12, S30
	2016	S13
Cubes	2015	J14 (I13), S27
Other 3-D shapes	2012	S24
	2013	I6, S17
	2014	I7, I25
	2015	S25
	2016	S23

Polygons	2012	J8, J28, I15, I19
	2013	I18
	2015	S8, S21
	2016	J17, I11 (S6)
Quadrilaterals	2012	J11 (S3), J20, J28, J13, I7, I22, I28
	2013	I14, S13, S14
	2015	I20, I24
Symmetry	2013	I24 (S22)
Tessellation	2012	J28
	2013	J24
Triangles	2012	J2, J22, I3, I13 (S10), I22, I28, S13, S15, S17, S20, S24, S27
	2013	J9, J13 (I10), J20, S2, S29, S30
	2014	J2 (I2), J15, J28 (I26), S7, S15, S17
	2015	J25, I15, I20, S20
	2016	J2, I12 (S7), I26, S14, S16
Trigonometry	2012	S17, S20, S30
	2014	S7, S15, S17, S24
	2015	S23
Volume	2012	I20, S8
	2013	S17, S25
	2016	I18, S18
STATISTICS AND PROBABILITY		
Compound events	2012	S14, S18
	2013	I12, S11, S16
	2014	S11
	2015	J22 (I14, S7), I29 (S28)
	2016	S9
Graphs and Data	2014	I8, S23
	2015	J15
Statistical measures	2014	I12
	2015	I21, I23
	2016	I28
PROBLEM SOLVING		
Logic	2012	J17, I12
	2013	J12, J15, J21, J22, J30, I20, I25, I26, I30 (S28), S24
	2014	J7, J10, J14, J19, J22 (I17), I23 (S21), S16
	2015	J10 (I6), S14
	2016	J6, J13, J14, J15 (I15), J18, J19, J21, J23, J29, I10, I17, I20, I29 (S26), S12

Enumeration	2012	J17, J27, J29, I18, S18, S22
	2013	J23, J26, J27, I11, I21, I28 (S26), I29, S20
	2014	J13, J17, J20 (I16), J21, J25, J28 (I26), J29, I19, I22, S27
	2015	J19, J28, J29, I16, I23, S11, S19, S22, S24
	2016	J22, J25, J27 (I24), J30, I22, I25, I30 (S29), S19, S20, S28
Extreme Value	2012	J7, J21 (I21), J25, J26, J29, I24, I25, I26, S26
	2013	J25, S19
	2014	J24, J30 (S26), I18, I21, I24, S28, S29
	2015	J16, J24 (I19), J26, J29, J30, I27, I30, S17, S29, S30
	2016	J16 (I7), J28, I16, I27, S17, S24, S25